

# DEPARTMENT OF ENVIRONMENTAL CONSERVATION

## AIR QUALITY OPERATING PERMIT

Permit No. 276TVP01  
Application No. 276  
Revision 2: January 11, 2008

Issue Date: August 28, 2001  
Expiration Date: August 27, 2006

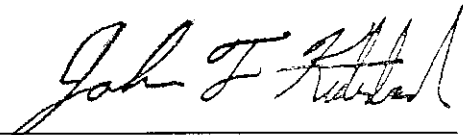
The Department of Environmental Conservation, under the authority of AS 46.14 and 18 AAC 50, issues an operating permit to the Permittee, **Pacific Energy Resources LTD**, for the operation of the **West McArthur River Unit**.

This permit satisfies the obligation of the owner and operator to obtain an operating permit as set out in AS 46.14.130(b).

As required by AS 46.14.120(c), the Permittee shall comply with the terms and conditions of this operating permit.

As set out in 18 AAC 50.340(i), after the issue date of this permit, the Permittee is no longer required to comply with the terms and conditions of Air Quality Control Permit to Operate No. 9223-AA010.

All terms and conditions of Air Quality Construction No. 9823-AC032 have been incorporated into this Operating Permit. Under AS 46.14.290, the Permittee is considered in compliance with applicable requirements of this Construction Permit to the extent allowed under 42 U.S.C. 7661c(f) (Clean Air Act, sec. 504(f)) by complying with this Operating Permit.



John F. Kuterbach, Manager

Air Permits Program

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**List of Abbreviations Used in this Permit**

AAC.....	Alaska Administrative Code
ADEC .....	Alaska Department of Environmental Conservation
AS .....	Alaska Statutes
ASTM .....	American Society for Testing and Materials
C.F.R.....	Code of Federal Regulations
COMS .....	Continuous Opacity Monitoring System
dscf.....	Dry standard cubic feet
EPA.....	US Environmental Protection Agency
gr./dscf .....	grain per dry standard cubic feet (1 pound = 7000 grains)
GPH .....	gallons per hour
HAPs.....	Hazardous Air Pollutants [hazardous air contaminants as defined in AS 46.14.990(14)]
ID .....	Source Identification Number
kPa .....	kiloPascals
MACT.....	Maximum Achievable Control Technology
NESHAPs .....	Federal National Emission Standards for Hazardous Air Pollutants [as defined in 40 C.F.R. 61]
NSPS.....	Federal New Source Performance Standards [as defined in 40 C.F.R. 60]
ppm .....	Parts per million
PS.....	Performance specification
PSD.....	Prevention of Significant Deterioration
RM.....	Reference Method
SIC.....	Standard Industrial Classification
SO <sub>2</sub> .....	Sulfur dioxide
TPH.....	Tons per hour
TPY.....	Tons per year
VOC.....	volatile organic compound [as defined in 18 AAC 50.990(103)]
wt%.....	weight percent

**Section 1. Identification**

## Names and Addresses

Permittee: **Pacific Energy Resources LTD**  
310 K Street, Suite 700  
Anchorage, AK 99501

Facility: **West McArthur River Unit**

Location: 60° 47' 05" North; 151° 45' 00" West

Physical Address: West Foreland  
Area of Cook Inlet, Alaska

Owner: Pacific Energy Alaska Operating LLC  
310 K Street, Suite 700  
Anchorage, AK 99501

Operator: Pacific Energy Resources LTD

Permittee's Responsible Official: George Paspalof, Manager Alaska Operations

Designated Agent: Corporation Service Company  
9360 Glacier Highway, Suite 202  
Juneau, AK 99801

Facility and Building Contact: David Hall  
(907) 776-7108

Fee Contact: Renee Varley  
310 K Street, Suite 700  
Anchorage, AK 99501  
(907) 868-2155

SIC Code of the Facility:  
1311 - Crude Oil Production

[18 AAC 50.350(b), 1/18/97]

**Section 2. General Emission Information**

Emissions of Regulated Air Contaminants, as provided in the Permittee's application:

Nitrogen dioxide, carbon monoxide, sulfur dioxide, particulate matter ( $<10\ \mu$ ), volatile organic compounds, oxides of nitrogen, 1,3-butadiene, acetaldehyde, antimony, acrolein, arsenic, beryllium, benzene, cadmium, cobalt, chromium, chromium 6+, ethylbenzene, ethylene glycol, formaldehyde, isomers of xylene, naphthalene, manganese, mercury, nickel, phosphorus, polycyclic organic matter, selenium, toluene, hydrogen sulfide.

Operating Permit Classifications:

1. 18 AAC 50.325(b)(1)
2. 18 AAC 50.325(c)

Facility Classifications as described under 18 AAC 50.300(b)-(f):

1. 18 AAC 50.300(b)(2)

[18 AAC 50.350(b), 1/18/97]

**Section 3. Fee Requirements**

1. **General.** The Permittee shall pay assessed fees in accordance with AS 46.14.240 -- 250 and 18 AAC 50.400 -- 420.  

[18 AAC 50.350(c) & 18 AAC 50.400 – 420, 1/18/97]
2. **Assessable Emissions.** The Permittee shall pay to the department an annual emission fee based on the facility's assessable emissions. The assessable emission fee rate is listed in 18 AAC 50.410(b). The department will assess fees for each ton of air contaminants that the facility emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is either
  - 2.1 the facility's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon previous actual annual emissions, when demonstrated by
    - a. an enforceable test method described in 18 AAC 50.220;
    - b. material balance calculations;
    - c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or
    - d. other methods and calculations approved by the department; OR
  - 2.2 the facility's assessable potential to emit of 459.6 tpy (214.9 tons of NO<sub>x</sub>, 95 tons of SO<sub>2</sub>, 119.2 tons of CO, 13.4 tons of PM-10, and 17.1 tons of VOCs).  

[18 AAC 50.350(c) & 18 AAC 50.410, 1/18/97]
3. **Assessable Emission Estimates.** Emission fees will be assessed as follows:
  - 3.1 No later than March 30 of each year, the Permittee may submit an estimate of the facility's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emission Estimate, 410 Willoughby Ave., Juneau, AK 99801-1795. The submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the department can verify the estimates, or
  - 3.2 If no estimate is received on or before March 30 of each year, emission fees for the next fiscal year will be based on the potential to emit set forth in condition 2.2.  

[18 AAC 50.350(c) & 18 AAC 50.410, 1/18/97]

**Section 4. Source Inventory and Description**

Sources listed below have specific monitoring, record keeping, or reporting conditions in this permit. Source descriptions and ratings are given for identification purposes only.

**Table 1. Source Inventory**

<b>ID</b>	<b>Source Name</b>	<b>Source Description</b>	<b>Rating/size</b>	<b>Install Date</b>
1	Caterpillar D-398 Engine	Rig Generator No. 1 Drive	800 kW	1993
2	Caterpillar D-398 Engine	Rig Generator No. 2 Drive	800 kW	1993
3	Caterpillar D-398 Engine	Rig Generator No. 3 Drive	800 kW	1993
4	Caterpillar D-398 Engine	Rig Generator No. 4 Drive	800 kW	1993
5	Solar Saturn Turbine (T-1021S-32)	Standby Generator Drive	750 kW	1994
6	Solar Saturn Turbine (T-1021S-32)	AC Generator No. 1 Drive	750 kW	1994
7	Solar Saturn Turbine (T-1021S-32)	AC Generator No. 2 Drive	750 kW	1994
8	Solar Saturn Turbine (T-1021S-32)	AC Generator No. 3 Drive	750 kW	1994
9	Williams & Davis Boiler	Boiler No. 1 – Rig	150 bhp	1993
10	Williams & Davis Boiler	Boiler No. 2 – Rig	150 bhp	1993
11	Safety/Pilot Flare	Safety/Pilot Flare	300 MMscf/yr	1993
12	Temporary Sources	Miscellaneous IC Equipment	Various ratings	Varies
13	Temporary Sources	Miscellaneous EC Equipment	Various ratings	Varies
14	Waukesha L1616GU Engine	Standby AC Generator	250 kW	1994
15	Caterpillar G-342 Engine	Pump Drive	260 hp	1993
16	Multiple Chamber Incinerator	Refuse Incinerator No. 1	198 lb/hr	2000
17	Multiple Chamber Incinerator	Refuse Incinerator No. 2	141 lb/hr	1994
18	Sivalls HT830	Gas-Fired Heater	2.85 MMBtu/hr	1999
19	Miscellaneous	Fugitive Emissions	N/A	N/A

**Section 5. Source-Specific Requirements****Fuel-Burning Equipment***Visible Emissions*

4. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from Source IDs 1 - 17 to reduce visibility through the exhaust effluent by greater than 20% for more than three minutes in any one hour.

Monitor, record and report according to Section 13.

[18 AAC 50.055(a)(1), 1/18/97; 18 AAC 50.350(d)(1)(C), 6/21/98; & 18 AAC 50.350(g) – (i), 1/18/97]

*Particulate Matter*

5. The Permittee shall not cause or allow particulate matter emitted from Source IDs 1 - 15 to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

Monitor, record and report according to Section 13.

[18 AAC 50.055(b)(1), 1/18/97; 18 AAC 50.350(d)(1)(C), 6/21/98; & 18 AAC 50.350(g) – (i), 1/18/97]

*Sulfur Compound Emissions*

6. The Permittee shall not cause or allow sulfur compound emissions, expressed as SO<sub>2</sub>, from Source IDs 1 - 15 to exceed 500 ppm averaged over three hours.

[18 AAC 50.055(c), 1/18/97; 18 AAC 50.350(d)(1)(C), 6/21/98]

**6.1 Diesel Fuel:**

- a. Burn a grade of fuel that limits sulfur content to no more than 0.5 percent by weight, such as DF-1 or DF-2.
- b. Obtain a statement or receipt from the fuel supplier for each fuel shipment received that documents either the fuel sulfur content or that the fuel grade is DF-1 or DF-2. If a statement or receipt is not available from the supplier, then analyze a representative sample of the fuel to determine the sulfur content using ASTM method D129-00, D1266-98, D1552-95, D2622-98, D4294-98, D4045-99 or an alternative method approved by the department.
- c. Report under condition 51 whenever fuel combusted does not meet the 0.5% requirements of condition 6.1a; this fuel sulfur content is the basis of the SO<sub>2</sub> potential to emit in condition 2.2.
- d. Report under condition 51 if a three hour exhaust concentration, calculated under condition 6.1c, exceeds 500 ppm of SO<sub>2</sub>.



- e. Record the fuel sulfur content or the fuel grade of each shipment required under condition 6.1b and record all material balance calculations required under condition 6.1c.
- f. Attach copies of the records required by condition 6.1e with the facility operating reports required by condition 53.

[18 AAC 50.350(g) - (i), 1/18/97]

## 6.2 Fuel Gas:

- a. Compliance with this condition is assured by using a fuel gas that limits sulfur content to no more than 4000 ppm by volume measured as H<sub>2</sub>S, i.e. H<sub>2</sub>S concentration of less than or equal to 4000 ppm.
- b. Obtain a semiannual statement or receipt from the fuel supplier certifying the fuel gas H<sub>2</sub>S concentration in ppmv. If a certificate is not available from the supplier, then analyze a representative sample of the fuel semiannually to determine the sulfur content using 40 CFR 60, Appendix A, Method 11 or using Draeger tube analysis.
- c. Report under condition 51 whenever the H<sub>2</sub>S concentration of the fuel gas obtained or analyzed exceeds 4000 ppmv.
- d. Record the H<sub>2</sub>S concentration of the fuel gas required under condition 6.2b.
- e. Attach copies of the records required by condition 6.2d with the facility operating reports required by condition 53.
- f. Report to the Department when fuel gas with a H<sub>2</sub>S content less than 350 ppmv is unavailable.

[Construction Permit No. 9823-AC032, 3/12/99]  
[18 AAC 50.350(g)-(i), 1/18/97]

## Operational Limits

- 7. The Permittee shall not exceed 330,000 gallons (cumulative total) of diesel fuel for Source IDs 1 – 4 per consecutive twelve-month period.

[Operating Permit No. 9223-AA010, 1/8/93, amended]

- 7.1 Record the flow meter readings daily for each Source IDs 1 – 4. Calculate the total fuel used in each source for each calendar month. Within two weeks after the end of each calendar month, calculate and keep records of consecutive twelve-month period fuel usage for each source.
- 7.2 Maintain a summary log of fuel usage. The log must include the consecutive twelve-month period calculation for each month in the reporting period.

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- 7.3 Submit monthly calculations of the total diesel fuel consumed in the preceding consecutive twelve-month period with the facility operating report required in condition 53.
- 7.4 Report under condition 51 any consecutive twelve-month period calculations that exceed the 330,000 gallons limit.
- 7.5 If the consecutive twelve-month period total fuel usage exceeds 297,000 gallons for Source IDs 1 – 4,
- notify the Department within 14 days, and
  - conduct source tests no later than 30 days of notifying the Department, to determine NOx emission factors for Source IDs 1 - 4, unless they have been tested within the last 5 years.
- [18 AAC 50.350(g-i), 1/18/97]
8. The Permittee shall not exceed 178,368 gallons of diesel fuel for Source ID 5 per consecutive twelve-month period.
- [Operating Permit No. 9223-AA010, 1/8/93, amended]
- 8.1 Record the flow meter readings daily for Source ID 5. Calculate the total fuel used for each calendar month. Within two weeks after the end of each calendar month, calculate and keep records of consecutive twelve-month period fuel usage.
- 8.2 Maintain a summary log of fuel usage. The log must include the consecutive twelve-month period calculation for each month in the reporting period.
- 8.3 Submit monthly calculations of the total diesel fuel consumed in the preceding consecutive twelve-month period with the facility operating report required in condition 53.
- 8.4 Report under condition 51 any consecutive twelve-month period calculations that exceed the 178,368 gallons limit.
- [18 AAC 50.350(g-i), 1/18/97]
9. The Permittee shall not exceed 40,000 gallons (cumulative total) of diesel fuel (or natural gas equivalent) for Source IDs 9 - 10 per consecutive twelve-month period.
- [Operating Permit No. 9223-AA010, 1/8/93, amended]
- 9.1 Record the flow meter readings daily for each Source IDs 9 - 10. Calculate the total fuel used in each source for each calendar month. Within two weeks after the end of each calendar month, calculate and keep records of consecutive twelve-month period fuel usage for each source.
- 9.2 Maintain a summary log of fuel usage. The log must include the consecutive twelve-month period calculation for each month in the reporting period.
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- 9.3 Submit monthly calculations of the total diesel fuel consumed in the preceding consecutive twelve-month period with the facility operating report required in condition 53.
- 9.4 Report under condition 51 any consecutive twelve-month period calculations that exceed the 40,000 gallons limit (or natural gas equivalent).

[18 AAC 50.350(g-i), 1/18/97]

- 10. The Permittee shall not exceed 2.5 million standard cubic feet of natural gas per day, or 283 million standard cubic feet of natural gas per consecutive twelve-month period in Source ID 11.

[Operating Permit No. 9223-AA010, 1/8/93, amended]

[Construction Permit No. 9823-AC032, 3/12/99]

- 10.1 Record the flow meter readings daily for Source ID 11. Calculate the total volume of gas flared in the source for each calendar month. Within two weeks after the end of each calendar month, calculate and keep records of consecutive twelve-month period of gas flared.
- 10.2 Maintain a summary log of gas flared. The log must include the daily reading and the consecutive twelve-month period calculation for each month in the reporting period.
- 10.3 Submit the daily reading and the monthly calculations of the total gas flared in the preceding consecutive twelve-month period with the facility operating report required in condition 53.
- 10.4 Report under condition 51 any daily reading or consecutive twelve-month period calculations that exceed the limits under condition 10.

[18 AAC 50.350(g-i), 1/18/97]

- 11. The Permittee shall not exceed 120,000 gallons (cumulative total) of diesel fuel (or natural gas equivalent) for Source ID 12 per consecutive twelve-month period.

[Operating Permit No. 9223-AA010, 1/8/93, amended]

- 11.1 Record the flow meter readings daily for each miscellaneous internal combustion source. Calculate the total fuel used in each source for each calendar month. Within two weeks after the end of each calendar month, calculate and keep records of consecutive twelve-month period fuel usage for each source.
- 11.2 Maintain a summary log of fuel usage. The log must include the consecutive twelve-month period calculation for each month in the reporting period.
- 11.3 Submit monthly calculations of the total fuel consumed in the preceding consecutive twelve-month period with the facility operating report required in condition 53.
- 11.4 Report under condition 51 any consecutive twelve-month period calculations that exceed the 120,000 gallons limit (or natural gas equivalent).

[18 AAC 50.350(g-i), 1/18/97]

- 12.** The Permittee shall not exceed 10,000 gallons (cumulative total) of diesel fuel (or natural gas equivalent) for Source ID 13 per consecutive twelve-month period.

[Operating Permit No. 9223-AA010, 1/8/93, amended]

- 12.1 Record the flow meter readings daily for each miscellaneous external combustion source. Calculate the total fuel used in each source for each calendar month. Within two weeks after the end of each calendar month, calculate and keep records of consecutive twelve-month period fuel usage for each source.
- 12.2 Maintain a summary log of fuel usage. The log must include the consecutive twelve-month period calculation for each month in the reporting period.
- 12.3 Submit monthly calculations of the total fuel consumed in the preceding consecutive twelve-month period with the facility operating report required in condition 53.
- 12.4 Report under condition 51 any consecutive twelve-month period calculations that exceed the 10,000 gallons limit (or natural gas equivalent).

[18 AAC 50.350(g-i), 1/18/97]

- 13.** The Permittee shall maintain a current list of the miscellaneous internal and external combustion sources, considered Source IDs 12-13.

[Operating Permit No. 9223-AA010, 1/8/93, amended]

- 13.1 Submit an updated list of the miscellaneous internal and external combustion sources with the facility operating report required in condition 53.

[18 AAC 50.350(g-i), 1/18/97]

- 14.** The Permittee shall not exceed 6.82 million standard cubic feet of 1400 Btu/scf natural gas for Source ID 15 per consecutive twelve-month period.

[Operating Permit No. 9223-AA010, 1/8/93, amended]

- 14.1 Record the flow meter readings daily for Source ID 15. Calculate the total fuel used for each calendar month. Within two weeks after the end of each calendar month, calculate and keep records of consecutive twelve-month period fuel usage.
- 14.2 Maintain a summary log of fuel usage. The log must include the consecutive twelve-month period calculation for each month in the reporting period.
- 14.3 Submit monthly calculations of the total fuel consumed in the preceding consecutive twelve-month period with the facility operating report required in condition 53.
- 14.4 Report under condition 51 any consecutive twelve-month period calculations that exceed the limit in condition 14.

[18 AAC 50.350(g-i), 1/18/97]

- 15.** The Permittee shall not exceed 7.5 tons of refuse burned per consecutive twelve-month period for Source ID 16.

[Operating Permit No. 9223-AA010, 1/8/93, amended]

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- 15.1 Record the mass of refuse burned daily in Source ID 16. Calculate the total mass of refuse burned for each calendar month. Within two weeks after the end of each calendar month, calculate and keep records of consecutive twelve-month period mass of refuse burned.
- 15.2 Maintain a summary log of mass of refuse burned. The log must include the consecutive twelve-month period calculation for each month in the reporting period.
- 15.3 Submit monthly calculations of the total mass of refuse burned in the preceding consecutive twelve-month period with the facility operating report required in condition 53.
- 15.4 Report under condition 51 any consecutive twelve-month period calculations that exceed the 7.5 tons limit.
- [18 AAC 50.350(g-i), 1/18/97]
16. The Permittee shall not exceed 2,190 hours of operation per consecutive twelve-month period in Source ID 14.
- [Operating Permit No. 9223-AA010, 1/8/93, amended]
- 16.1 Monitor the actual hours of operation of Source ID 14.
- 16.2 Maintain a log of the actual hours of operation of Source ID 14. The log must include the consecutive twelve-month period calculation for each month in the reporting period.
- 16.3 Submit monthly calculations of hours operated in the preceding consecutive twelve-month period with the facility operating report required in condition 53.
- 16.4 Report under condition 51 any consecutive twelve-month period calculations that exceed the 2,190 hours of operation limit.
- [18 AAC 50.350(g-i), 1/18/97]
17. The Permittee shall keep and follow a preventative maintenance program for Source ID 18. Keep a copy of the procedures available at a location within the facility that is readily accessible to operators of the equipment and to authorized representative of the department.
- 17.1 Monitor and record the number of operating hours for Source ID 18.
- 17.2 Submit a summary of the number of operating hours for each month in the reporting period with the facility operating report required in condition 53.
- 17.3 Conduct a particulate matter emission test or visible emission surveillance on Source ID 18, upon request by the department.
- 17.4 Submit to the department visible emission surveillance records or department-requested particulate matter test results within ten days after conducting the surveillance or test.
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## Burning Used Oil in Sources

**Caution: Compliance with the requirements of the following conditions will ensure compliance with the applicable requirements of 18 AAC 50. This permit does not ensure compliance with other applicable state or federal laws concerning management, use, or disposal of used oil.**

18. Until the department approves a particulate matter source test demonstrating that burning the used oil will comply with the particulate matter emission standard of condition 5, the Permittee shall blend or co-fire any used oil with at least an equal volume of virgin fuel oil.

18.1 Perform fuel blending or co-firing using a metering system or other reproducible method accurate to  $\pm 5$  percent.

18.2 For blending, record the date, the quantity of used oil in gallons, and the quantity of virgin fuel oil in gallons added to the blend. For co-firing, record the date, the quantity of used oil fired, and the quantity of virgin oil fired at the same time.

18.3 Report under condition 51 whenever used oil is not blended or co-fired as described above.

18.4 Include in the facility operating report required by condition 53 the total amount of used oil burned in the period.

[18 AAC 50.055(b)(1), 6/21/98]

[18 AAC 50.350(g) – (i), 1/18/97]

19. The Permittee shall only burn used oil or a used oil/virgin fuel blend meeting the specifications in 19.3 unless the department verifies in writing that burning the off-specification used oil will comply with 18 AAC 50.110. For off-specification used oil, the department will, in its discretion, require the Permittee to provide information as necessary to verify compliance with 18 AAC 50.110.

19.1 Analyze a representative sample of each batch of used oil using SW-846 test methods for arsenic, lead, cadmium, chromium, total halogens, flash point, and polychlorinated biphenyls (PCBs), prior to blending with the virgin fuel oil.

19.2 If used oil does not meet the specification in condition 19.3, calculate and record the amount of virgin fuel oil required per gallon of used oil such that the blend will meet the specifications. Blend the used oil with at least the amount of virgin fuel oil determined in this condition. Record the information required under condition 18.2.

19.3 The used oil must meet the following specifications:

- a. flash point greater than 100°F; and concentrations of
- b. polychlorinated biphenyls (PCBs) no higher than 50 ppm,

- 
- c. total halogens no higher than 1000 ppm,\*
  - d. arsenic no higher than 5 ppm,
  - e. cadmium no higher than 2 ppm,
  - f. chromium no higher than 10 ppm, and
  - g. lead no higher than 100 ppm

[18 AAC 50.030, 12/30/00; & 18 AAC 50.110, 5/26/72]

- 19.4 Keep records of each analysis, measurement, and calculation required under conditions 19.1 - 19.2.
- 19.5 Report under condition 51 whenever the used oil is not analyzed according to condition 19.1 and whenever a used oil blend is burned that does not meet the specification in condition 19.3.
- 19.6 Include in the facility operating report required by condition 53 the calculations recorded under condition 19.2.

[18 AAC 50.110, 5/26/72]  
[18 AAC 50.350(g) - (i), 1/18/97]

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\*Used oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste under the rebuttable presumption provided under part 279.1(b)(1). Such used oil is subject to subpart H of part 266 of this chapter rather than this part when burned for energy recovery unless the presumption of mixing can be successfully rebutted.

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**Section 6. Facility-Wide Requirements**

20. The Permittee shall install prior to operation, operate, and maintain monitoring systems to monitor and record the fuel consumption and hours of operation for Source IDs 1 – 17.  
[Operating Permit No. 9223-AA010, 1/8/93]
21. The Permittee shall install and size a head or manifold choke for well tests to limit fluid flows to no more than the design capacity of the phase separator.  
[Operating Permit No. 9223-AA010, 1/8/93]
22. The Permittee shall not burn produced liquids unless failures or seasonal constraints preclude flowing to tankage for storage, backhauling, or reinjection.
- 22.1 Liquids shall be burned utilizing a smokeless burner.  
[Operating Permit No. 9223-AA010, 1/8/93]
23. The Permittee shall not do open burning of produced liquids except in emergency situations.
- 23.1 Emergency burning of produced liquids shall be limited to 100 barrels or ten minutes, whichever is less.
- 23.2 Report under condition 51 every case of emergency open burning.  
[Operating Permit No. 9223-AA010, 1/8/93]
24. The Permittee shall report to the department within 30 days of each test burn, the actual or estimated amount and types of hydrocarbons burned, the combustion rate, and type of combustion.  
[Operating Permit No. 9223-AA010, 1/8/93]



**Section 7. Insignificant Sources**

This section contains the requirements that the Permittee identified under 18 AAC 50.335(q)(2) as applicable to insignificant sources at the facility. This section also specifies the testing, monitoring, reporting, and recordkeeping for insignificant sources that the department finds necessary to ensure compliance with the applicable requirements. Insignificant sources are not exempted from any air quality control requirement or federally enforceable requirement, except that the requirements of conditions 51 and 53 do not apply to this section.

As set out in 18 AAC 50.350(m), the shield of AS 46.14.290 does not apply to insignificant sources.

25. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from an industrial process, fuel-burning equipment, or an incinerator to reduce visibility through the exhaust effluent by greater than 20% for more than three minutes in any one hour.

[18 AAC 50.050(a)(2) & 18 AAC 50.055(a)(1), 1/18/97]

26. The Permittee shall not cause or allow particulate matter emitted from an industrial process or fuel-burning equipment to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.055(b)(1), 1/18/97]

27. The Permittee shall not cause or allow sulfur compound emissions, expressed as SO<sub>2</sub>, from an industrial process or fuel-burning equipment, to exceed 500 ppm averaged over three hours.

[18 AAC 50.055(c), 1/18/97]

28. Based on reasonable inquiry, the Permittee shall certify compliance with the requirements specified in conditions 25, 26, and 27 as set out in condition 54.

[18 AAC 50.350(m)(3), 6/21/98]

**Section 8. Generally Applicable Requirements**

- 29. Asbestos NESHAP.** The Permittee shall comply with the requirements set forth in 40 C.F.R. 61.145, 61.150, and 61.152, and the applicable sections set forth in 40 C.F.R. 61, Subpart A and Appendix A.

[18 AAC 50.040(b)(3) & 18 AAC 50.350(d)(1), 1/18/97]  
[Federal Citation: 40 C.F.R. 61, Subpart M, 12/19/96]

- 30. Refrigerant Recycling and Disposal.** The Permittee shall comply with the standards for recycling and emission reduction of refrigerants set forth in 40 C.F.R. 82, Subpart F.

[18 AAC 50.040(d) & 18 AAC 50.350(d)(1), 1/18/97]  
[Federal Citation: 40 C.F.R. 82, Subpart F, 7/1/97]

- 31. Good Air Pollution Control Practice.**

31.1 At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate Source IDs 1 -17, including affected air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

31.2 The Permittee shall maintain and operate air pollution control equipment according to the manufacturer's recommendations. If the manufacturer's recommendations are not available the Permittee shall operate the equipment according to an operation and maintenance plan. The Permittee shall revise the plan if requested by the department.

31.3 The Permittee shall keep records of maintenance performed and a copy of any manufacturer's procedures and operation and maintenance plans for the sources listed in condition 31.1.

[18 AAC 50.030, 12/30/00 & 18 AAC 50.350(f)(2)-(3), 1/18/97]

- 32. Dilution.** The Permittee shall not dilute emissions with air to comply with this permit.

[18 AAC 50.045(a), 1/18/97]

- 33. Bulk Materials Handling, Construction and Industrial Activities.** The Permittee shall take reasonable precautions to prevent particulate matter from being emitted into the ambient air as a result of industrial activities, construction projects, or the handling, transportation, and storage of bulk materials.

[18 AAC 50.040(e), 7/2/00, 18 AAC 50.045(d) & 18 AAC 50.350(d)(1), 1/18/97]

**33.1** Keep records describing all precautions taken to prevent particulate matter from becoming airborne due to any of the activities described in this condition. If the precautions taken by the Permittee are not listed in the State Air Quality Control Plan, also record a statement describing why the Permittee finds the precaution reasonable. Reasonable precautions, as listed in the State Air Quality Control Plan, include

- a. installation and use of hoods, fans, and dust collectors to enclose and vent the handling of dusty materials;
- b. use of water or chemicals for dust control in the demolition of existing structures, construction operations, road grading, or land clearing; and
- c. application of asphalt, oil, water, or suitable chemicals on dirt roads, material stockpiles and other surfaces which can create airborne dusts.

[18 AAC 50.040(e), 7/2/00 & 18 AAC 50.350(g) – (h), 1/18/97]

**33.2** At least once each month, perform visual surveys of fugitive particulate matter sources by

- a. conducting a survey of all bulk materials handling, construction and industrial activities at the facility for the potential of airborne particulate matter in accordance with the procedures listed in 40 C.F.R. 60, Appendix A, RM 22; and
- b. within 2 days of discovering that particulate matter emissions are leaving the property at a level which potentially could unreasonably interfere with the enjoyment of life or property, be injurious to human health or welfare, animal or plant life, or property, or cause an exceedance of a PM-10 ambient air quality standard or increment contained in 18 AAC 50.010(1) or 18 AAC 50.020(b)(2), initiate corrective actions to prevent emissions from leaving the property; and
- c. keep contemporaneous records of all visual surveys performed and corrective actions taken to prevent particulate matter emissions from leaving the property; submitting summaries of the records with the facility operating report required by condition 53; and
- d. report under condition 51 whenever a visual survey reveals that particulate matter emissions at levels specified in condition 33.2b are leaving the property.

[18 AAC 50.350(g) – (i), 1/18/97]

**34. Stack Injection.** The Permittee shall not release materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack at a source constructed or modified after November 1, 1982, unless approved in writing by the department.

[18 AAC 50.055(g), 1/18/97]

**35. Open Burning.** The Permittee shall comply with the following requirements when conducting open burning at the facility.

- 35.1 Open burning of asphalt, rubber products, plastics, tars, oils, oily wastes, contaminated oil cleanup materials, or other materials in a way that gives off black smoke is prohibited without written approval of the department in accordance with the procedures set forth in 18 AAC 50.065.

[18 AAC 50.040(e), 7/2/00, 18 AAC 50.065(b) & 18 AAC 50.350(d)(1), 1/18/97]

- 35.2 Open burning or incineration of pesticides, halogenated organic compounds, cyanic compounds, or polyurethane products in a way that gives off toxic or acidic gases or particulate matter is prohibited.

[18 AAC 50.040(e), 7/2/00, 18 AAC 50.065(c) & 18 AAC 50.350(d)(1), 1/18/97]

- 35.3 Open burning of putrescible garbage, animal carcasses, or petroleum-based materials, including materials contaminated with petroleum or petroleum derivatives, is prohibited if it causes odor or black smoke that has an adverse effect on nearby persons or property.

[18 AAC 50.040(e), 7/2/00, 18 AAC 50.065(d) & 18 AAC 50.350(d)(1), 1/18/97]

- 35.4 Open burning is prohibited in an area if the department declares an air quality advisory under 18 AAC 50.245, stating that open burning is not permitted in that area for the day.

[18 AAC 50.040(e), 7/2/00, 18 AAC 50.065(e) & 18 AAC 50.350(d)(1), 1/18/97]

- 35.5 When conducting open burning, the Permittee shall ensure that

- a. the material is kept as dry as possible through the use of cover or dry storage;
- b. before igniting the burn, noncombustibles are separated to the greatest extent practicable;
- c. natural or artificially induced draft is present;
- d. to the greatest extent practicable, combustibles are separated from grass or peat layer;
- e. combustibles are not allowed to smolder; and
- f. sufficient written records are kept to demonstrate that the Permittee complies with the limitations in this condition. Upon request of the department, submit copies of the records.

[18 AAC 50.040(e), 7/2/00, 18 AAC 50.065(a), 18 AAC 50.350(d)(1) & 18 AAC 50.335(g) – (h), 1/18/97]

**36. Air Pollution Prohibited.** The Permittee shall not cause any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property.

[18 AAC 50.040(e), 7/2/00; 18 AAC 50.110, 5/26/72; & 18 AAC 50.350(d)(1), 1/18/97]

36.1 Within 24 hours of receiving a complaint that is attributable to emissions from the facility, investigate the complaint, and

36.2 Within 48 hours time initiate necessary corrective actions to alleviate or eliminate the cause of the complaint.

[18 AAC 50.240(c) & 18 AAC 50.350(g), 1/18/97]

36.3 Keep records of the date, time, and nature of all complaints received and summary of the investigation and corrective actions undertaken for complaints attributable to emissions from the facility. Upon request of the department, submit copies of the records.

[18 AAC 50.350(h) – (i), 1/18/97]

**37. Technology-Based Emission Standard.** If an unavoidable emergency, malfunction, or non-routine repair, as defined in 18 AAC 50.235, causes emissions in excess of a technology-based emission standard listed in condition 30, the Permittee shall take all reasonable steps to minimize levels of emissions that exceed the standard.

[18 AAC 50.235(a) & 18 AAC 50.350(f)(3), 1/18/97]

**38. Permit Renewal.** To renew this permit, the Permittee shall submit a complete application under 18 AAC 50.335 no sooner than **February 27, 2005** and no later than **February 27, 2006** to renew this permit.

[18 AAC 50.335(a), 1/18/97]

**Section 9. General Source Testing and Monitoring Requirements**

- 39. Requested Source Tests.** In addition to any source testing explicitly required by this permit, the Permittee shall conduct source testing as requested by the department to determine compliance with applicable permit requirements.

[18 AAC 50.220(a), 18 AAC 50.345(a)(10), 1/18/97]

- 40. Operating Conditions.** Unless otherwise specified by an applicable requirement or test method, the Permittee shall conduct source testing

40.1 At a point or points that characterize the actual discharge into the ambient air; and

40.2 At the maximum rated burning or operating capacity of the source or another rate determined by the department to characterize the actual discharge into the ambient air.

[18 AAC 50.220(b) & 18 AAC 50.350(g), 1/18/97]

- 41. Reference Test Methods.** The Permittee shall use the following as reference test methods when conducting source testing for compliance with this permit:

41.1 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(a) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60.

[18 AAC 50.040(a), 7/2/00, 18 AAC 50.220(c)(1)(A) & 18 AAC 50.350(g), 1/18/97]  
[Federal Citation: 40 C.F.R. 60, 7/1/99]

41.2 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(b) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 61.

[18 AAC 50.040(b), 18 AAC 50.220(c)(1)(B) & 18 AAC 50.350(g), 1/18/97]  
[Federal Citation: 40 C.F.R. 61, 12/19/96]

41.3 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(c) must be conducted in accordance with the source test methods and procedures specified in 40 C.F.R. 63.

[18 AAC 50.040(c), 7/2/00; 18 AAC 50.220(c)(1)(C) & 18 AAC 50.350(g), 1/18/97]  
[Federal Citation: 40 C.F.R. 63, 7/1/99]

41.4 Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in Section 14.

[18 AAC 50.030, 12/30/00; 18 AAC 50.220(c)(1)(D) & 18 AAC 50.350(g), 1/18/97]

41.5 Source testing for emissions of particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals, and acid gases must be conducted in accordance with the methods and procedures specified 40 C.F.R. 60, Appendix A.

[18 AAC 50.040(a)(4), 7/2/00 18 AAC 50.220(c)(1)(E) & 18 AAC 50.350(g), 1/18/97]  
[Federal Citation: 40 C.F.R. 60, Appendix A, 7/1/99]

41.6 Source testing for emissions of PM-10 must be conducted in accordance with the procedures specified in 40 C.F.R. 51, Appendix M.

[18 AAC 50.035, 7/2/00; 18 AAC 50.220(c)(1)(F) & 18 AAC 50.350(g), 1/18/97]

[Federal Citation: 40 C.F.R. 51, Appendix M, 7/1/99]

41.7 Source testing for emissions of any contaminant may be determined using an alternative method approved by the department in accordance with Method 301 in Appendix A to 40 C.F.R. 63.

[18 AAC 50.040(c), 7/2/00, 18 AAC 50.220(c)(2) & 18 AAC 50.350(g), 1/18/97]

[Federal Citation: 40 C.F.R. 63, Appendix A, Method 301, 7/1/99]

42. **Excess Air Requirements.** To determine compliance with this permit, standard exhaust gas volumes must only include the volume of gases formed from the theoretical combustion of fuel, plus the excess air volume normal for the specific source type, corrected to standard conditions (dry gas at 70° F and an absolute pressure of 760 millimeters of mercury).

[18 AAC 50.220(c)(3), 18 AAC 50.350(g) & 18 AAC 50.990(88), 1/18/97]

43. **Test Plans.** Before conducting any source tests, the Permittee shall submit a plan to the department. The plan must include the methods and procedures to be used for sampling, testing, and quality assurance, and must specify how the source will operate during the test and how the Permittee will document this operation. A complete plan must be submitted within 60 days of receiving a request under condition 39 and at least 30 days before the scheduled date of any tests.

[18 AAC 50.345(a)(10), 18 AAC 50.350(b)(3) & 18 AAC 50.350(g), 1/18/97]

44. **Test Notification.** At least 10 days before conducting a source test, the Permittee shall give the department written notice of the date and time the source test will begin.

[18 AAC 50.345(a)(10)(C) & 18 AAC 50.350(b)(3), 1/18/97]

45. **Test Reports.** Within 45 days after completing a source test, the Permittee shall submit two copies of the results, to the extent practical, in the format set out in the *Source Test Report Outline* of Volume III, Section IV.3 of the State Air Quality Control Plan, adopted by reference in 18 AAC 50.030(8). The Permittee shall certify the results as set out in condition 47.

[18 AAC 50.345(a)(10)(D), 18 AAC 50.350(b)(3) & 18 AAC 50.350(h) – (i), 1/18/97]

46. **Particulate Matter Calculations.** In source testing for compliance with the particulate matter standards in conditions 5 and 26, the three-hour average is determined using the average of three one-hour test runs.

**Section 10. General Recordkeeping, Reporting, and Compliance Certification Requirements**

- 47. Certification.** The Permittee shall certify all reports, compliance certifications, or other documents submitted to the department under this permit by including the signature of a responsible official for the permitted facility following the statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete." For the same six-month reporting period, the excess emission and permit deviation reports submitted under condition 51 may be certified with the facility operating report required by condition 53. All other reports must be certified upon submittal.

[18 AAC 50.205, 18 AAC 50.345(a)(9), 18 AAC 50.350(b)(3) & 18 AAC 50.350(i) 1/18/97]

- 48. Submittals.** Unless otherwise directed by the department or this permit, the Permittee shall send reports, compliance certifications, and other documents required by this permit to ADEC, Air Permits Program, 610 University Ave., Fairbanks, AK 99709-3643, ATTN: Compliance Technician.

[18 AAC 50.350(i), 1/18/97]

- 49. Information Requests.** The Permittee shall furnish to the department, within a reasonable time, any information the department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit or to determine compliance with the permit. Upon request, the Permittee shall furnish to the department copies of records required to be kept by this permit. The department, in its discretion, will require the Permittee to furnish copies of those records directly to the federal administrator.

[18 AAC 50.200, 18 AAC 50.345(a)(8), 18 AAC 50.350(b)(3) & 18 AAC 50.350(g) – (i), 1/18/97]

- 50. Recordkeeping Requirements.** The Permittee shall keep all records required by this permit for at least five years after the date of collection, including

50.1 Copies of all reports and certifications submitted pursuant to this section of the permit.

50.2 Records of all monitoring required by this permit, and information about the monitoring including

- a. calibration and maintenance records, original strip chart or computer-based recordings for continuous monitoring instrumentation;
- b. sampling dates and times of sampling or measurements;
- c. the operating conditions that existed at the time of sampling or measurement;
- d. the date analyses were performed;
- e. the location where samples were taken;
- f. the company or entity that performed the sampling and analyses;



- g. the analytical techniques or methods used in the analyses; and
- h. the results of the analyses.

[18 AAC 50.350(h), 1/18/97]

- 51. Excess Emission and Permit Deviation Reports.** The Permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit or that present a potential threat to human health or safety as soon as possible, but no later than 48 hours, after discovery of the event. The report must include the information listed on the form contained in Section 15. The Permittee may use this form to report emissions under this condition.

[18 AAC 50.235(a)(2), 18 AAC 50.240(c) & 18 AAC 50.350(i), 1/18/97]

- 52. NSPS and NESHAP Reports.** The Permittee shall submit to the department copies of reports required by condition 29, as they apply to the facility as follows:

52.1 Attach a copy of any NSPS and NESHAPs reports submitted to the U.S. Environmental Protection Agency (EPA) Region 10 to the facility operating report required by condition 53.

52.2 The Permittee shall notify the department and shall provide a written copy of any U.S. EPA granted waiver of the federal emission standards, record keeping, monitoring, performance testing, or reporting requirements, or approved custom monitoring schedules within 30 days after receipt of a waiver or schedule. Keep a copy of each U.S. EPA issued monitoring waiver or custom monitoring schedule with the permit at the facility.

[18 AAC 50.040, 7/2/00 & 18 AAC 350(i)(2), 1/18/97]

[Federal Citation 40 C.F.R. 60 & 40 C.F.R. 61, 7/1/99]

- 53. Facility Operating Reports.** During the life of this permit, the Permittee shall submit an original and two copies of an operating report by August 1 for the period January 1 to June 30 and by February 1 for the period July 1 to December 31. Facility operating reports must include copies of the records required to be reported by the conditions of this permit. In addition, facility operating reports must list the date(s) of all excess emissions and permit deviation reports submitted to the Department during the reporting period and must identify

53.1 the date of the deviation;

53.2 the equipment involved;

53.3 the permit condition;

53.4 a description of the deviation; and

53.5 any corrective action or preventive measures taken and the date of such actions.

[18 AAC 50.350(d)(4), 18 AAC 50.350(f)(3) & 18 AAC 50.350(i), 1/18/97]

**54. Annual Compliance Certification.** Each year by February 1, the Permittee shall compile and submit to the department an original and two copies of an annual compliance certification report as follows:

54.1 For each permit term and condition set forth in Section 3 through Section 10, including terms and conditions for monitoring, reporting, and recordkeeping:

[18 AAC 50.350(d)(4), 1/18/97]

- a. certify the compliance status over the preceding calendar year consistent with the monitoring required by this permit;
- b. state whether compliance is intermittent or continuous; and
- c. briefly describe each method used to determine the compliance status.

54.2 Submit a copy of the report directly to the U.S. EPA-Region 10, Office of Air Quality, M/S OAQ-107, 1200 Sixth Avenue, Seattle, WA 98101.

[18 AAC 50.350(j), 1/18/97]

**Section 11. Standard Conditions Not Otherwise Included in the Permit**

55. Consistent with Alaska law, for purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any standard in this permit, nothing in this permit precludes the use of any credible evidence or information relevant to whether the facility would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. If this condition applies to an NSPS source, then the requirements of 40 C.F.R. 60.11(g) as adopted in 18 AAC 50.040(a)(1) also apply.

[18 AAC 50.350(f)(3), 1/18/97]

56. The Permittee must comply with each permit term and condition. Noncompliance constitutes a violation of AS 46.14, 18 AAC 50, and the Clean Air Act, except for those requirements designated as not federally-enforceable, and is grounds for:

56.1 an enforcement action,

56.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280, or

56.3 denial of an operating-permit renewal application.

[18 AAC 50.345(a)(1) & 18 AAC 50.350(b)(3), 1/18/97]

57. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.

[18 AAC 50.345(a)(2) & 18 AAC 50.350(b)(3), 1/18/97]

58. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of this permit.

[18 AAC 50.345(a)(3) & 18 AAC 50.350(b)(3), 1/18/97]

59. Compliance with permit terms and conditions is considered to be compliance with those requirements that are:

59.1 included and specifically identified in the permit, or

59.2 determined in writing in the permit to be inapplicable.

[18 AAC 50.345(a)(4) & 18 AAC 50.350(b)(3), 1/18/97]

60. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any operating permit condition.

[18 AAC 50.345(a)(5) & 18 AAC 50.350(b)(3), 1/18/97]

61. The permit does not convey any property rights of any sort, nor any exclusive privilege.

[18 AAC 50.345(a)(6) & 18 AAC 50.350(b)(3), 1/18/97]

- 62.** The Permittee shall allow an officer or employee of the department or an inspector authorized by the department, upon presentation of credentials and at reasonable times with the consent of the owner or operator, to:
- 62.1 enter upon the premises where a source subject to the operating permit is located or where records required by the permit are kept,
  - 62.2 have access to and copy any records required by the permit,
  - 62.3 inspect any facilities, equipment, practices, or operations regulated by or referenced in the permit, and
  - 62.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

[18 AAC 50.345(a)(7) & 18 AAC 50.350(b)(3), 1/18/97]

**Section 12. Permit As Shield from Inapplicable Requirements**

In accordance with AS 46.14.290, and based on information supplied in the facility application, this section of the permit contains the requirements determined by the department not to be applicable to the permitted facility.

63. The department has determined that Source IDs 5 - 8 are not subject to the requirements set forth in 40 C.F.R. 60 Subpart GG. This determination is based upon certification by the Permittee that these gas turbines were constructed prior to April 1970.

[18 AAC 50.350(l), 1/18/97]

64. The department has determined that the facility is not subject to the requirements set forth in 40 C.F.R. 63. This determination is based upon certification by the Permittee that none of the specified activities are performed at the facility.

[18 AAC 50.350(l), 1/18/97]

**Section 13. Visible Emissions and Particulate Matter Monitoring Plan****Visible Emissions Observations for Liquid Fuel and Natural Gas Fired Sources**

65. As provided in Table 2, the Permittee shall observe the exhaust of Source IDs 1 – 17 for visible emissions using **either** the Method-9 Plan **or** the Smoke/No-Smoke Plan. The Permittee may change visible-emission plans for a source at any time. Upon permit issuance start visible emissions monitoring with the **Initial Monitoring Frequency**.

**Table 2. Visual Observation Methods**

	<b>Method-9 Plan</b>	<b>Smoke/No Smoke Plan</b>
<b>Initial Monitoring Frequency</b>	<p>Within six months after the issue date of this permit or within seven calendar days after changing from the Smoke/No-Smoke Plan), whichever is later, and at least monthly (semiannually for pipeline quality natural gas fired sources) that a source operates thereafter, observe its exhaust for six minutes to obtain 24 individual 15-second opacity readings in accordance with Section 14.</p> <ul style="list-style-type: none"> <li>• <b>If</b> two or more individual 15-second readings during the six-minute observation period are greater than 20% opacity, <b>then</b> continue the Method-9 observations for an additional 12 minutes for a total of 18 minutes.</li> <li>• <b>If</b> four or more individual 15-second readings during the 18-minute observation period are greater than 20% opacity, <b>then</b> continue the Method-9 observations for an additional 42 minutes for a total of 60 minutes.</li> </ul>	<p>During each calendar day (quarterly for pipeline quality natural gas fired sources) that a source operates, observe the exhaust for the presence or absence of visible emissions, excluding condensed water vapor. Record the following information in a written log for each observation and submit copies of the records upon request of the department:</p> <ul style="list-style-type: none"> <li>• the date and time of the observation;</li> <li>• from Section 4 Table 1 of this permit, the ID of the source observed;</li> <li>• whether visible emissions are present or absent in the exhaust;</li> <li>• if the source starts operation on the day of the observation, the startup time of the source; and</li> <li>• name and title of the person making the observation.</li> </ul>

	<b>Method-9 Plan</b>	<b>Smoke/No Smoke Plan</b>
<b>Reduced Monitoring Frequency</b>	<b>If</b> 60 minutes of observations were not necessary under the initial monitoring frequency, or the source was observed for 60 minutes and no more than eight individual 15-second readings are greater than 20% opacity during the most recent observation, <b>then</b> reduce the number of six-minute observations to one observation for every quarter (no reduction for pipeline quality natural gas fired sources) that a source operates.	<b>If</b> the source operated without visible smoke in the exhaust during the most recent month, <b>then</b> reduce the number of Smoke/No-Smoke observations to one observation for every month (no reduction for pipeline quality natural gas fired sources) that a source operates.
<b>Increased Monitoring Frequency</b>	<b>If</b> a source is observed for 60 minutes and more than eight, but fewer than thirteen individual 15-second readings are greater than 20% opacity during the most recent observation, <b>then</b> the observation frequency must be increased to or maintained at monthly intervals, until the criterion for reduced monitoring frequency specified above is met.	No increased monitoring frequency. Go to condition 67 <b>or</b> to the initial monitoring frequency of the Method-9 Plan.

66. The Permittee is not required to comply with conditions 43, 44 and 45 (Test Plans, Test Notifications and Test Reports) when the exhaust is observed for visible emissions under condition 65.

#### Corrective Actions Based on Smoke/No Smoke Observations

67. If under the Smoke/No Smoke Plan visible emissions are present in the exhaust during an observation performed under condition 65, then the Permittee shall:
- 67.1 Initiate actions to eliminate smoke from the source within 24 hours of the observation;
  - 67.2 Keep a written record of the starting date, the completion date, and a description of the actions taken to reduce smoke;
  - 67.3 After completing the actions, then take smoke/no-smoke readings in accordance with condition 65 at a frequency of at least once per day for the next 30 calendar days (for both liquid and gas fired sources) that the source operates, and continue according to the optional schedule set out in condition 65; and

- 67.4 If the actions taken under condition 67.1 do not eliminate the smoke, or if subsequent smoke is observed under the schedule set out in condition 67.3, then observe the exhaust in accordance with the Method-9 Plan until written approval has been received from the department to resume observations under the Smoke/No Smoke Plan.

#### Particulate Matter Testing for Source IDs 1 - 5, 9 – 10, 12 – 13, and 16 – 17

68. The Permittee shall conduct source tests on Source IDs 1 - 5, 9 – 10, 12 – 13, and 16 – 17 to determine the concentration of particulate matter (PM) in the exhaust of a source as follows:
- 68.1 Conduct a particulate matter source test according to the requirements set out in Section 9 no later than 90 calendar days after any time either of the following occurs (unless a follow-up Method-9 test during the 90 days shows that the following no longer occurs):
- a. A 60-minute Method-9 reading results in 13 or more 15-second readings with an opacity greater than 20%; or
  - b. A 60-minute Method-9 reading results in an average opacity that is greater than 12% for a source with an exhaust stack diameter that is less than 21 inches.
- 68.2 During each PM source test, observe the exhaust for 60 minutes in accordance with Section 14 and submit a summary of these observations with the source test report.

#### Reporting Requirements

69. The Permittee shall, within 180 calendar days after the effective date of this permit, record and report the exhaust stack diameter of each Source IDs 1 - 5, 9 – 10, 12 – 13, and 16 – 17, and report this information to the department with the first or second facility operating report required by condition 53.
70. The Permittee shall notify the department in each facility operating report required by condition 53, which visible-emission plan in condition 65 was used for each source. The Permittee shall also submit with the facility operating report copies of the observation results (i.e. opacity readings) for each source that used the Method-9 Plan. The Permittee shall also indicate in the facility operating report the number of calendar days that smoke was observed for each source that used the Smoke/No-Smoke Plan.
71. Report under condition 51 if:
- 71.1 a 60-minute opacity observation results in
- a. 13 or more 15-seconds readings with an opacity greater than 20%;



- b. a 60-minute average opacity that is greater than 12% for a source with an exhaust stack diameter that is less than 21 inches; or

71.2 the results of a source test for particulate matter exceeds the particulate matter emission limit.

#### Visible Emissions Observations for Flares (Source ID 11)

- 72. Within 3 daylight hours of the time when the vapor recovery unit (VRU) goes out of service, observe each of the flares for the presence or absence of visible emissions. If visible emissions are present in the exhaust, take corrective action within 24 hours, and make another observation after completing the corrective action. If visible emissions remain present in the exhaust, conduct a daily Method-9 observation of the source beginning no later than 5 days after completing the corrective action, and continue until the VRU is restored to service.
- 73. Record the following information in a written log for each VRU outage, and submit copies of the log upon request of the department:
  - a. Starting and ending times of each VRU outage;
  - b. From Table 1 of this permit, the ID of the source observed;
  - c. Date and time of each visible emissions observation performed;
  - d. Whether visible emissions are present or absent in the exhaust;
  - e. Date, time and nature of any corrective action taken to reduce visible emissions;
  - f. Date, time and result of any Method 9 tests performed;
  - g. Name, title and signature of the person making the observation(s).

[18 AAC 50.350(g)-(l), 1/18/97]

**Section 14. Visible Emission Evaluation Procedures**

An observer qualified according to 40 C.F.R. 60, RM 9 shall use the following procedures to determine the reduction of visibility through the exhaust effluent.

**Position.** The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and, when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

**Field Records.** The observer shall record the name of the plant, emission location, facility type, observer's name and affiliation, and the date on the Visible Emissions Field Data Sheet. The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on the sheet at the time opacity readings are initiated and completed.

**Observations.** Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume but instead shall observe the plume momentarily at 15-second intervals. Unless directed to do otherwise in this permit, observe emissions for 60 consecutive minutes to obtain a minimum of 240 observations.

**Attached Steam Plumes.** When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

**Detached Steam Plume.** When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

**Recording Observations.** Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on the Visible Emissions Observation Record contained in this section. Record the minimum number of observations required by the permit. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

**Data Reduction.** To determine compliance with a standard set out in conditions 4 and 25, count the number of observations that exceed 20 percent opacity and record this number on the sheet.

## Visible Emissions Field Data Sheet

Certified Observer: \_\_\_\_\_

Company: \_\_\_\_\_

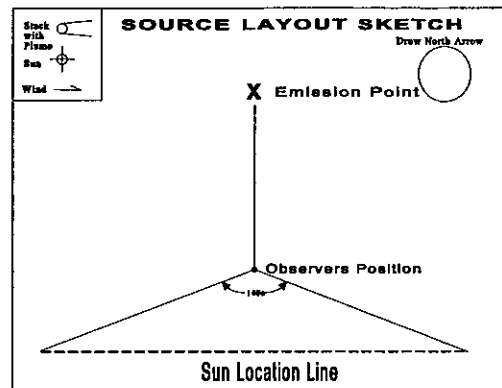
Location: \_\_\_\_\_

Test No.: \_\_\_\_\_ Date: \_\_\_\_\_

Source: \_\_\_\_\_

Production Rate, Operating Rate &  
Unit Operating Hours: \_\_\_\_\_

Hrs. of observation: \_\_\_\_\_



Clock Time	Initial				Final
Observer location					
Distance to discharge					
Direction from discharge					
Height of observer point					
Background description					
Weather conditions					
Wind Direction					
Wind speed					
Ambient Temperature					
Relative humidity					
Sky conditions: (clear, overcast, % clouds, etc.)					
Plume description:					
Color					
Distance visible					
Water droplet plume? (Attached or detached?)					
Other information					

## Page \_\_\_\_ of \_\_\_\_

Test Number \_\_\_\_\_ Clock time \_\_\_\_\_

[illegible]

Observer Signature \_\_\_\_\_

## Duration of Observation Period (minutes) \_\_\_\_\_

Number of Observations exceeding 20% \_\_\_\_\_

Set Number	Time Start—End	Opacity	
		Sum	Average

**Section 15. ADEC Notification Form**

Fax this form to: (907) 269-7508 Telephone: (907) 269-8888

**Pacific Energy Resources LTD**

Company Name

**West McArthur River Unit**

Facility Name

**1. Reason for notification:**☐ **Excess Emission**☐ **Permit Condition Deviation****2. Event Information (Use 24-hour clock):****START Time:****END Time:****Duration**

(hr:min):

Date: \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_

Date: \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_

**Total:** \_\_\_\_\_ : \_\_\_\_\_**3. Cause of Event (Check all that apply):**☐ **START UP**☐ **UPSET CONDITION**☐ **CONTROL EQUIPMENT**☐ **SHUT DOWN**☐ **SCHEDULED MAINTENANCE**☐ **OTHER** \_\_\_\_\_*Attach a detailed description of what happened, including the parameters or operating conditions exceeded.***4. Sources Involved:***Identify each Emission Source involved in the event, using the same identification number and name as in the Permit. List any Control Device or Monitoring System affected by the event.**Attach additional sheets as necessary.*

Source ID No.	Source Name	Description	Control Device
_____	_____	_____	_____
_____	_____	_____	_____

**5. Emission Limit Exceeded and/or Permit Condition Deviation:***Identify each Emission Standard and Permit Condition potentially exceeded during the event.**Attach a list of ALL known or suspected injuries or health impacts. Attach additional sheets as necessary.*

Permit Condition	Limit	Exceedance
_____	_____	_____

**6. Emission/Deviation Reduction:***Attach a description of the measures taken to minimize and/or control emissions or permit condition deviations during the event.***7. Corrective Actions:***Attach a description of corrective actions taken to restore the system to normal operation and to minimize or eliminate chances of a recurrence.*

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Alaska Department of Environmental Conservation**

**Air Permits Program**

**January 9, 2008**

**Pacific Energy Resources LTD**

**West McArthur River Unit**

**LEGAL AND FACTUAL BASIS**

**of the terms and conditions for**

**Permit No. 276TVP01 Revision 1**

**Prepared by Tim Knapp**

## INTRODUCTION

This document sets forth the legal and factual basis for the terms and conditions of Operating Permit No. 276TVP01.

The West McArthur River Unit is an oil and natural gas production facility that transfers the produced oil to Unocal's Trading Bay Production Facility. The facility is owned by Pacific Energy Alaska Operating LLC and operated by Pacific Energy Resources LTD. Pacific Energy Resources LTD is the Permittee for the facility's operating permit.

## PROCESS DESCRIPTION

As provided in the application, the facility produces crude oil by hydraulic jet pumps powered by electric driven pumps at the surface. Natural gas-fired turbines generate the required electrical power.

The facility consists of two gas-fired pump drives, four diesel-fired generators, three gas-fired gas turbines, one diesel-fired gas turbine, two dual-fuel boilers, one flare, four gas-fired heater-treaters, two refuse incinerators, and miscellaneous "temporary sources."

The sources at the facility regulated in Operating Permit 276TVP01 are identified in Table 1 in Section 4 of the permit.

## SOURCE INVENTORY AND DESCRIPTION

Section 4 of Operating Permit No. 276TVP01 contains Table 1 describing the sources regulated by the permit. The table is provided for information and identification purposes only. Specifically, the source rating/size provided in the table is not intended to create an enforceable limit.

## EMISSIONS

**Table 1. Emissions Summary**

Pollutant	NO <sub>x</sub>	CO	PM-10	SO <sub>2</sub>	VOC
Potential Emissions (TPY) per AS 46.14.990(21)	214.9	119.2	13.4	95	17.1
Assessable Potential to Emit (TPY) under condition 2.2	214.9	119.2	13.4	95	17.1

Potential emissions were determined with AP-42 emission factors, rating capacity, and assuming 8760 hours of operation per year, or operational limits. Emission factors were provided in the application.

The assessable potential to emit is simply those regulated air contaminants for which the facility has the potential to emit quantities greater than 10 tons per year.

### **BASIS FOR REQUIRING AN OPERATING PERMIT**

West McArthur River Unit requires an operating permit because it has the potential to emit 100 tons per year (tpy) or more of a regulated air contaminant. West McArthur River Unit meets the definition of operating permit facility in the state regulations at Section 2. West McArthur River Unit is also a Prevention of Significant Deterioration (PSD) Major Facility as defined in 18 AAC 50.300(c)(1) because it has the potential to emit more than 250 tpy of a regulated air contaminant in an area classified as attainment or unclassifiable. However, West McArthur River Unit requested specific limits to avoid PSD trigger levels.

Alaska regulations require operating permit applications to include identification of “regulated sources.” As applied to West McArthur River Unit, the state regulations require a description of:

Each incinerator, including a demonstration showing each requirement in 18 AAC 50.050, Incinerator Emissions Standards, that applies [18 AAC 50.335(e)(4)(A)];

Each source regulated by a standard in 18 AAC 50.055, Industrial Processes and Fuel Burning Equipment [18 AAC 50.335(e)(4)(C)];

Each source subject to a standard adopted by reference in 18 AAC 50.040 [18 AAC 50.335(e)(2)]; and

Sources subject to requirements in an existing DEC permit [18 AAC 50.335(e)(5)]

The emission sources at West McArthur River Unit classified as “regulated sources” according to the above DEC regulations are listed in Table 1 of Permit No. 276TVP01.

### **CURRENT AIR QUALITY PERMITS**

#### **Previous Air Quality Permit to Operate**

The most recent permit issued for this facility is permit-to-operate number 9223-AA010. This permit-to-operate include all construction authorizations issued through July 29, 1996, and was issued before January 18, 1997. All facility-specific requirements established in this previous permit are included in the new operating permit as described below.

#### **Construction Permits**

Construction Permit Number 9823-AC was issued to this facility on March 12, 1999. The facility-specific requirements established in this construction permit are included in the new operating permit as described below.



**Title-V Operating Permit Application History**

The owner or operator submitted an application on December 8, 1997. The permit was revised by administrative amendment on December 27, 2002 to update the due date for assessable emission estimates.

The permit was revised by administrative amendment on January 11, 2008 to reflect the change in ownership from Forest Oil Corporation to Pacific Energy Alaska Operating LLC.

**COMPLIANCE HISTORY**

The facility has operated at its current location since 1991. Review of the permit files for this facility, which includes the past inspection reports indicate that compliance cannot be determined for a variety of reasons, including facility operating reports lateness, inconsistent and incomplete.

## FACILITY-SPECIFIC REQUIREMENTS CARRIED FORWARD

18 AAC 50.350(d)(1)(D) requires that this permit include each facility specific requirement established in prior permit 9223-AA010. Table 2 below lists the old requirement (condition) and the new condition that carries over the old requirement into the new permit.

**Table 2. A comparison of pre-January 18, 1997 Permit No. 9223-AA010 facility-specific conditions to Permit No. 276TVP01 conditions. This table does not include standard and general conditions.**

Permit No. 9223-AA010 condition	Description of Requirement	Permit No. 276TVP01 condition	How condition was revised
3	Limit fluid flows for well tests	20	Carried forward
4	Prohibition of produced liquids burning	22	Carried forward
5	Prohibition of produced liquids open burning	23	Carried forward and revised
6	330,000 gal/yr diesel limit for Source IDs 1 – 4	7	Carried forward
6a	178,368 gal/yr diesel limit for Source ID 5	8	Carried forward
7	40,000 gal/yr diesel limit for Source IDs 9 - 10	9	Carried forward
7a	1,920 hrs/yr limit for Source ID 5		Condition revoked
8	2.5 mmscf/day and 300 mmscf/yr natural gas limits for Source ID 14	10	Superseded by Construction Permit No. 9823-AC032, condition 22.2. Source ID changed to Source ID 11
9	2,393,700 Hp-hr/yr limit for Source ID 15		Condition revoked
10	418,000 Hp-hr/yr limit for Source ID 16		Condition revoked
11	140,000 gal/yr diesel or 12 mmscf/yr of 1400 Btu/ft <sup>3</sup> natural gas limits for Source ID 15	11	Superseded by owner-requested limit. Source ID changed to Source ID 12

Permit No. 9223-AA010 condition	Description of Requirement	Permit No. 276TVP01 condition	How condition was revised
12	10,000 gal/yr diesel or 1.0 mmscf/yr of 1400 Btu/ft <sup>3</sup> natural gas for Source ID 16	12	Carried forward, Source ID changed to Source ID 13
12a	7.5 tons/yr limit for Source ID 17	15	Carried forward, Source ID changed to Source ID 16
12d	6.82 mmscf/yr of 1400 Btu/ft <sup>3</sup> natural gas for Source ID 21	14	Carried forward, Source ID changed to Source ID 15
12e	1,250,000 hp-hr/yr limit for Source ID 21		Condition revoked
13	1 year limit for temporary IC and EC equipment, Source IDs 15 –16	11 - 13	Permittee allowed operating these sources under the limits of conditions 11 - 13. Condition revoked
14	Available current list of temporary Sources IDs 15 - 16	13	Carried forward, Source ID changed to Source IDs 12-13
21	Install monitoring systems for fuel consumption and hours of operation	20	Monitoring systems must be already installed to comply with previous permit. Condition carried forward
24	Within 30 days of each test burn, report to the Department	24	Carried forward
25	Black smoke incidents reporting	51	Superseded
26	Report when fuel limits are exceeded by 90%	7.5	Carried forward
27	Quarterly facility operating reports	53	Superseded
29	Keep records for three years	50	Superseded by 18 AAC 50.350(h)(5)
30	Copy of operating permit posted		Rescinded

## LEGAL AND FACTUAL BASIS FOR THE PERMIT CONDITIONS

### Conditions 1 - 3

**Legal Basis:** [18 AAC 50.350(c) & 18 AAC 50.400 – 420, 1/18/97]

The regulations require all permits to include due dates for the payment of fees and any method the Permittee may use to re-compute assessable emissions.

**Factual Basis:** These conditions require the Permittee to pay fees in accordance with the department's billing regulations. The department's billing regulations set the due dates for payment of fees based on the billing date.

The conditions also set forth how the Permittee may recompute assessable emissions. If the Permittee does not choose to annually calculate assessable emissions, emissions fees may be paid based on “potential to emit.”

The potential to emit for sulfur dioxide is based upon a 0.5% fuel sulfur limit as allowed in the permit.

### Table 3 is a comparison of actual and potential facility emissions.

Table 3. Potential to Emit [AS 46.14.990(21)] and Actual Emissions Estimate for West McArthur River Unit in TPY.

	Actual Emissions <sup>1</sup>					Potential Emissions <sup>2</sup>				
	NOx	CO	PM-10	VOC	SOx	NOx	CO	PM-10	VOC	SOx
<b>1996 - 1997</b>	<b>58.5</b>	<b>22.4</b>	<b>3.24</b>	<b>3.87</b>	<b>0.15</b>	<b>214.9</b>	<b>119.2</b>	<b>13.4</b>	<b>17.1</b>	<b>95</b>

Notes: 1—These values are averages from operating data for 1996 and 1997 submitted by the Permittee in the Title V application.

2—These values are estimates based on AP-42 emission factors, rating capacity, and assuming 8760 hours of operation per year, or operational limits established to avoid PSD review.

### Condition 4

**Legal Basis:** [18 AAC 50.055(a)(1), 1/18/97]

[18 AAC 50.350(d)(1)(C), 6/21/98]

[18 AAC 50.350(g) – (i), 1/18/97]

Heaters, flares and engines are fuel-burning equipment. This regulation applies to operation of all fuel-burning equipment in Alaska.

**Factual basis:** The condition cites the state visible emission standard applicable to fuel-burning equipment. The Permittee shall not cause or allow the heaters, flares and engines to violate this standard.

The monitoring, recordkeeping, and reporting requirements are listed in Section 13 of the permit. The requirements for the visible emission and particulate matter standards are combined in this section.

There are two options for monitoring visible emissions. One option requires the Permittee to observe visible emissions in accordance with the state reference test method (i.e. 40 CFR 60, Method-9). The other option requires the Permittee to momentarily observe the exhaust for presence or absence of smoke. This latter option takes into account the difficulty and expense of getting certified readers to remote locations in Alaska.

Under the latter option, all sources are initially observed for the presence or absence of smoke in the exhaust for each of the first 30 operating days. Smoke is presumed to be absent if the exhaust exhibits less than five percent opacity. The department believes the initial 30 days is sufficient to capture all operating modes and to assure that the monitoring determines if the source complies with the visible emission standard. If smoke is absent during any 30 day operating period, the monitoring frequency is relaxed to one observation for every 30 days of source operation. The department believes monthly checks are sufficient to monitor for the presence of increased visible emissions that may result from degradation.

If the Permittee observes smoke in the exhaust, the Permittee may switch to the Method-9 opacity reading plan. Otherwise Permittee must take action to eliminate visible emissions from the source within 24 hours of the observation. After completing the action, the Permittee continues to observe the exhaust for the presence or absence of smoke for 30 operating days. If smoke is observed during this 30-day period, the Permittee must take Method-9 opacity readings using the state reference test method within seven days after the visible emissions are observed.

The recordkeeping requirements consist of keeping records of the results of all visible emission observations and records of any actions taken to reduce visible emissions. The Permittee must report copies of the results of all observations done using the state reference test method with the facility operating reports. The Permittee must report emissions in excess of the state visible emission standard.

## Condition 5

**Legal Basis:** [18 AAC 50.055(b)(1), 1/18/97]

[18 AAC 50.350(d)(1)(C), 6/21/98]

[18 AAC 50.350(g) – (i), 1/18/97]

Heaters and engines are fuel-burning equipment. This regulation applies to operation of all fuel-burning equipment in the State of Alaska.

**Factual basis:** The condition cites the state particulate-matter emission standard applicable to fuel-burning equipment. The Permittee shall not cause or allow heaters or engines to violate this standard.

The monitoring, recordkeeping, and reporting requirements are listed in Section 13 of the permit. The requirements for the visible emission and particulate matter standards are combined in this section.

The requirement to test for particulate matter to determine compliance with the standard is triggered by the results of observations conducted in accordance with the state reference test method. For most sources the Permittee is required to conduct tests if the results of an observation show noncompliance with the visible emission standard or the average opacity indicates noncompliance with the particulate matter standard.

The department is not requiring initial tests to show compliance with the particulate matter standards. Based on manufacturers' data, the department believes that most new heaters and engines comply with the particulate matter standard<sup>1</sup>. Also, there are opacity-particulate correlations<sup>2</sup> that show emissions from heaters and engines commonly used in Alaska will meet the state particulate matter (PM) standard of 0.05 grains per dry standard cubic foot (gr./dscf) of exhaust gas, if the average opacity in the exhaust is less than 20 percent and the exhaust stack diameter is at least 21 inches. The correlations also show that emissions from heaters and engines commonly used in Alaska with an exhaust stack diameter of at least 10 inches will always meet the 0.05 gr./dscf PM standard if the average opacity is less than 12%. None of the permitted exhaust stacks in Alaska should have exhaust stack diameters less than 10 inches; if they did, then the 12% (PM source test trigger) should be decreased to account for the smallest stack diameter. The department believes this is sufficient justification to not require initial compliance testing since the Permittee certified compliance with the visible emission standard in the application. However, the department is requiring testing if the Permittee observes visible emissions, that are not corrected, greater than the state PM standard or greater than 12% for exhaust stacks smaller than 21 inches.

In a general operating permit for engines, the department required source tests for particulate matter when the average opacity of a visible emission observation exceeded twelve percent. Since that time, the department has uncovered additional test data and literature that supports a statement that heaters and flares will meet the 0.05 grain loading standard when the average opacity is less than twelve percent, provided that the exhaust outlet diameter (path length for opacity observations) exceeds 21 inches. Testing conducted at both an Alaskan power plant and an Hawaiian utility confirm that compliance with the 20 percent opacity standard will insure compliance with the 0.05 gr./dscf particulate standard, provided that the exhaust outlet is 21 inches or larger. This test data closely agrees with values obtained using the smoke density calculator at <http://www.dieselnet.com/calculator/index.html>. The calculator is based on the report, *Particulate Matter Measurements*, DieselNet Technology Guide, Revision 1997.12. Based on this new information, the department is requiring testing if the Permittee observes visible emissions greater than 12%, expressed as a six-minute average and the stack diameter if the source is less than 21 inches. The department is also requiring the Permittee to measure visible emissions during a source test and to calculate the average opacity during the test.

The Permittee must report copies of all source test reports and emissions in excess of the particulate matter standard.

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<sup>1</sup> See attached data

<sup>2</sup> See attached graph

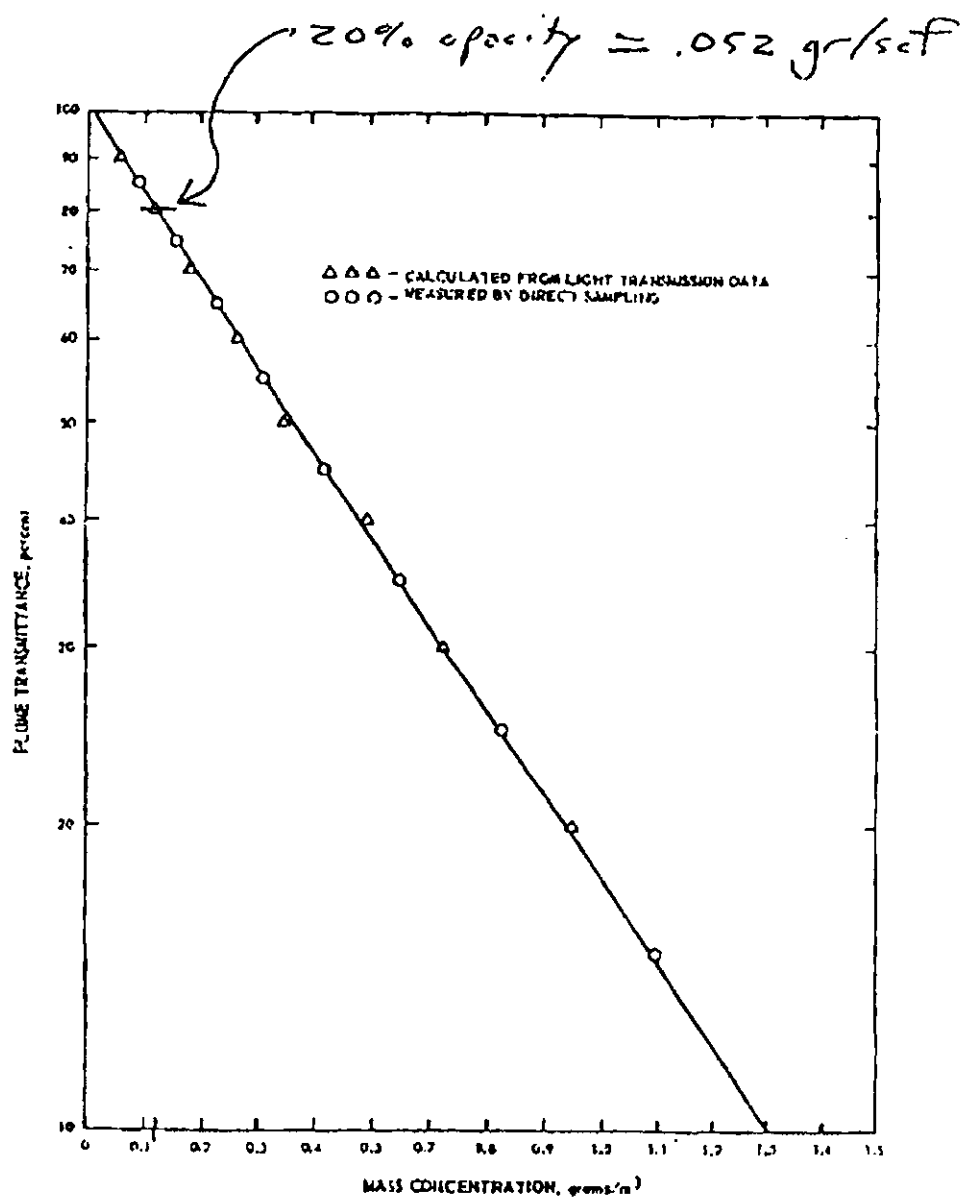


Figure 32. Mass concentration of black plume as calculated from transmittance and measured by direct sampling.

#### OPTICAL PROPERTIES AND VISUAL EFFECTS

		Test	Capacity	Capacity	bhp	dscd	asdn	% moisture	Gas temp.	%O2	gpm/Kw-Hr	gpm/Kwh	p/psi
			kW	MW									
F02.02% S CAT	D398 JH/C	not avail.	not avail.	939	1969	5239 not avail.	not avail.	890		0.09 n/a		0.008 From vendor	
F02.02% S CAT	3412 DTA	300	360	463	830	2181 not avail.	not avail.	1203 n/a		0.08 n/a		0.008 From vendor	
F02.02% S CAT	3516	1135	1365	1536	3261	9189	not avail.	817 n/a		0.24 n/a		0.021 From vendor	
F02.02% S CAT	3512	855	855	1205.7	2114	6003 not avail.	not avail.	822 n/a		0.165 n/a		0.017 From vendor	
F01A.2 CAT	1450	1200	n/a	n/a	3941.3	11228.4	6.82	874.5	10.5	n/a n/a		0.001 METHOD 5	
F01A.2 CAT	3516	1450	1200	n/a	3927.5	11170.1	6.69	875.5	10.5	n/a n/a		0.028 METHOD 5	
F01B.2 CAT	3518	1450	1200	n/a	3969.8	10893.5	6.84	877.7	10.3	n/a n/a		0.030 METHOD 5	
F02.02% S CAT	3606	1730	1730	2320	4644	13002 not avail.	not avail.	817	15	0.15 n/a		0.012 From vendor	
F02.02% S CAT	3608	2200	2300	3084	5980	16744 not avail.	not avail.	811	15	0.29 n/a		0.023 From vendor	
F02.02% S CAT	3608	2460	2460	3299	6866	19282 not avail.	not avail.	795	15	0.24 n/a		0.018 From vendor	
F02.02% S CAT	3812	3460	3460	4640	8288	25005 not avail.	not avail.	817	15	0.15 n/a		0.012 From vendor	
F02.02% S CAT	3612	3700	3700	4982	10143	27639 not avail.	not avail.	836	15	0.28 n/a		0.021 From vendor	
F02.02% S CAT	3618	4600	4600	6169	11960	33469 not avail.	not avail.	811	15	0.39 n/a		0.028 From vendor	
F02.02% S CAT	3618	4920	4920	6588	13774	38566 not avail.	not avail.	795	15	0.24 n/a		0.01862 From vendor	
F02	Allis Copc 12 cyclinder	-600	-600	800	1548	3232	7.7	548	13.2 n/a	n/a		0.00662 METHOD 5	
F02	Allis Copc 12 cyclinder	-800	-800	800	1522	3156	7.1	547	13.1 n/a	n/a		0.00815 METHOD 5	
F02	Allis Copc 12 cyclinder	-600	-600	800	1534	3205	7.1	555	13.1 n/a	n/a		0.013 METHOD 5	
F02	Allis Copc 8 cyclinder	-375	-375	500	1022	2025	7.6	497	13.2 n/a	n/a		0.018 METHOD 5	
F02	Allis Copc 8 cyclinder	-375	-375	500	1082	2084	8.9	495	13.2 n/a	n/a		0.020 METHOD 5	
F01B.2	Allis Copc 6 cyclinder	-375	-375	500	1110	2159	8.9	498	13.5 n/a	n/a		0.018 METHOD 5	
F01B.2	Ruslon 12RKC	2200	1850	2500	6497.5	18612.0	6.43	760.4	11.0 n/a	n/a		0.025 METHOD 5	
F01B.2	Ruslon 12RKC	2200	1850	2500	6482.8	16383.6	8.35	744.4	11.1 n/a	n/a		0.022 METHOD 5	
F01B.2	Ruslon 12RKC	2200	1850	2500	6584.7	16572.5	6.31	747.0	11.0 n/a	n/a		0.021 METHOD 5	
F02.02% S CAT	3116DTTAA	2400	281.15 not avail.	150 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.022 From vendor	
F02.02% S CAT	3116DTAB	2400	254.79 not avail.	180 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.23		0.036 From vendor	
F02.02% S CAT	3116DTAB	2400	268.2 not avail.	200 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.23		0.037 From vendor	
F02.02% S CAT	3116DTAB	2400	221.265 not avail.	165 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.029 From vendor	
F02.02% S CAT	3116DTAC	2300	268.2 not avail.	200 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.23		0.030 From vendor	
F02.02% S CAT	3116DTAC	2200	261.495 not avail.	195 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.16		0.028 From vendor	
F02.02% S CAT	3116DTAC	2100	248.065 not avail.	185 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.15		0.028 From vendor	
F02.02% S CAT	3116DTAC	2000	241.26 not avail.	180 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.15		0.026 From vendor	
F02.02% S CAT	3116DTAC	2500	241.26 not avail.	180 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.32		0.057 From vendor	
F02.02% S CAT	3116DTAC	2400	224.675 not avail.	175 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.23		0.037 From vendor	
F02.02% S CAT	3116DTAC	2200	214.58 not avail.	160 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.26		0.036 From vendor	
F02.02% S CAT	3116DTAC	2100	201.15 not avail.	150 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.27		0.044 From vendor	
F02.02% S CAT	3116DTAC	2000	194.45 not avail.	145 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.29		0.052 From vendor	
F02.02% S CAT	3116DTAC	1950	191.45 not avail.	150 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.30		0.057 From vendor	
F02.02% S CAT	3116DTAC	1800	241.26 not avail.	180 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.23		0.014 From vendor	
F02.02% S CAT	3116DTA	2400	187.71 not avail.	140 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.23		0.025 From vendor	
F02.02% S CAT	3116DTA	2400	201.15 not avail.	150 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.031 From vendor	
F02.02% S CAT	3116DTG	2400	207.835 not avail.	155 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.23		0.034 From vendor	
F02.02% S CAT	3116DTG	2300	200.15 not avail.	150 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.24		0.030 From vendor	
F02.02% S CAT	3116DTG	2200	194.445 not avail.	145 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.26		0.037 From vendor	
F02.02% S CAT	3116DTG	2100	181.005 not avail.	135 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.033 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.	5	0.22		0.030 From vendor	
F02.02% S CAT	3116DTG	2000	174.39 not avail.	130 not avail.	not avail.	not avail.	not avail.	not avail.</					



**Condition 6.**

**Legal Basis:** [18 AAC 50.055(c), 1/18/97]  
[18 AAC 50.350(d)(1)(C), 6/21/98]  
[18 AAC 50.350(g) – (i), 1/18/97]  
[18 AAC 50.410(c), 1/18/97]

The condition applies to operation of all fuel-burning equipment in the State of Alaska.

**Factual basis:** The condition re-iterates a sulfur emission standard applicable to fuel-burning equipment. The Permittee may not cause or allow their equipment to violate this standard.

The Permittee requested a fuel sulfur content limit of 0.5% in the Title V application.

**Diesel Fuel:** Diesel fuel sulfur is measured in weight percent sulfur. Calculation shows that fuel containing no more than 0.5% sulfur will always comply with the emission standard. This is true for all liquid hydrocarbon fuels, even with no excess air. Verification of ASTM fuel grade as No. 1 or No. 2 fuel oil will certify compliance with the standard because these fuel oils always have a fuel sulfur content of no more than 0.5%.

**Fuel Gas:** Fuel gas sulfur is measured as hydrogen sulfide, i.e. H<sub>2</sub>S concentration in ppm by volume. Calculations show that fuel gas containing no more than 4000 ppm H<sub>2</sub>S will always comply with this emission standard. This is true for all fuel gases, even with no excess air. The calculations supporting this assertion are posted on the ADEC Air Permits Web Site at <http://www.state.ak.us/dec/dawq/aqm/newpermit.htm>

Equations to calculate the exhaust gas SO<sub>2</sub> concentrations resulting from the combustion of fuel gas were not included in this permit. Fuel gas with an H<sub>2</sub>S concentration of even 10% of 4000 ppm is currently not available in Alaska and is not projected to be available during the life of this permit.

**SO<sub>2</sub> Potential to Emit (PTE):** The SO<sub>2</sub> PTE is based on 0.5% by weight sulfur of the diesel fuel and 4000 ppm H<sub>2</sub>S by volume of the fuel gas. If these fuel sulfur assumptions, i.e. 0.5% and 4000 ppm, are exceeded, then the SO<sub>2</sub> PTE could be exceeded depending on the hours of operation and the rate of fuel consumption. In any case, this facility will not be classified under 18 AAC 50.325(b)(1) for SO<sub>2</sub> at 0.5% and 4000 ppm. However, the department may, in its discretion, under the authority of 18 AAC 50.201(a) require the permittee to evaluate the effect of the facility's SO<sub>2</sub> emissions on ambient air before allowing the fuel sulfur concentration to exceed the 0.5% and 4000 ppm fuel sulfur assumptions in this permit.

The Permittee is required to advise the department if fuel gas with a H<sub>2</sub>S content less than 350 ppmv is unavailable. This condition is carried forward from Construction Permit No. 9823-AC. The legal basis for this requirement is 18 AAC 50.201, Ambient Air Quality Investigation.

**Conditions 7 – 16**

**Legal Basis:** [Operating Permit No. 9223-AA010, 1/8/93, amended]

[Construction Permit No. 9823-AC032, 3/12/99]

[18 AAC 50.350(g) – (i), 1/18/97]

**Factual basis:** These conditions set out the requirements for PSD Avoidance. These requirements were contained in the Operating Permit No. 9223-AA010 issued on January 8, 1993, subsequent amendments, and Construction Permit No. 9823-AC.

The Permittee is required to report and conduct source test in Source IDs 1 –4 when the fuel usage approaches 90% of the limit because the nitrogen oxide emission factor for these units comes from USEPA Publication AP-42, and is only an approximation. Because of the inherent error in the emission factor, more accurate testing is required as the limit is approached. The Permittee's request for PSD avoidance includes a limit of less than 250 TPY nitrogen oxide emissions. Since the limit is "less than 250 TPY," there is no margin for error.

### Condition 17

**Legal Basis:** [Construction Permit No. 9823-AC032, 3/12/99]

**Factual Basis:** The gas-fired heater Sivalls HT830 is an insignificant source installed in 1999 at the West McArthur River Unit. Source ID 18 requires monitoring, recordkeeping and reporting per Construction Permit No. 9823-AC to avoid classification as a modification under 18AAC 50.300(h)(2), and has been carried over into this permit.

### Conditions 18 – 19

**Legal Basis:** [18 AAC 50.030, 12/30/00 & 18 AAC 50.055(b)(1), 1/18/97]

[18 AAC 50.110, 5/26/72]

[18 AAC 50.350(g) – (i), 1/18/97]

**Factual basis:** These conditions set out the requirements for burning used oil. These requirements were contained in several pre-January 18, 1997 permits and mirror those found in the Alaska Air Quality Control Plan.

Because of various metal contaminants, used oil may have higher particulate emissions than virgin fuel oil. Staff experience indicates that burning used oil by itself may violate 18 AAC 50.055(b).

The monitoring set out for compliance with the particulate matter standard in condition 5 is not rigorous enough to detect potential violations of the standard due to burning used oil. Rather than complicate the standard monitoring, this permit requires the Permittee to blend or co-fire the used oil with at least an equal quantity of virgin fuel oil. Blending or co-firing the used oil with virgin fuel oil has been used to ensure compliance at other facilities, and the department believes such blending, along with the normal particulate matter monitoring, will ensure compliance with the particulate matter standard. As an alternative, the Permittee can demonstrate compliance using a source test.

The various contaminants in used oil can injure human health or welfare when burned and emitted by a source. Without a site-specific risk assessment, the department can not determine the amount of contaminants that can be emitted safely. However, the USEPA has

established specifications for used oil, and allows essentially unrestricted burning of used oil meeting these specifications. The department is confident that used oil meeting these specifications will comply with 18 AAC 50.110. The permit requires used oil to either meet or to be blended to meet the EPA specifications, unless the department verifies that burning the oil will meet 18 AAC 50.110.

### Conditions 20 – 24

**Legal Basis:** [Operating Permit No. 9223-AA010, 1/8/93, amended]  
[18 AAC 50.350(g) – (i), 1/18/97]

**Factual basis:** These facility wide requirements were contained in the Operating Permit No. 9223-AA010 issued on January 8, 1993 and subsequent amendments.

### Conditions 25 - 27

**Legal Basis:** [18 AAC 50.050(a)(2), 1/18/97]  
[18 AAC 50.055(a)(1), 1/18/97]  
[18 AAC 50.055(b)(1), 1/18/97]  
[18 AAC 50.055(c), 1/18/97]

**Factual basis:** These are general emission standards which apply to all industrial processes fuel-burning equipment, and incinerators regardless of size. The conditions re-iterate the general standards and require compliance for insignificant sources. The Permittee may not cause or allow their equipment to violate these standards. Insignificant sources are not listed in the permit unless specific monitoring, recordkeeping and reporting are necessary to ensure compliance.

The department finds that the insignificant sources at this facility do not need specific monitoring, recordkeeping and reporting to ensure compliance, with the exception of Source ID 18.

### Condition 28

**Legal Basis:** [18 AAC 50.350(m)(3), 9/4/98]

**Factual Basis:** The regulations require the Permittee to certify that their insignificant sources comply with applicable requirements. The condition restates the regulatory requirement.

### Condition 29

**Legal Basis:** [18 AAC 50.040(b)(3) & 18 AAC 50.350(d)(1), 1/18/97]  
[Federal Citation: 40 C.F.R. 61, Subpart M, 12/19/96]

If the Permittee engages in asbestos demolition and renovation, then these requirements may apply.

**Factual Basis:** The condition cites and requires compliance with the regulations that will apply if the Permittee engages in asbestos demolition or renovation. Because these

regulations include adequate monitoring and reporting requirements and because the Permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient.

**Condition 30**

**Legal Basis:** [18 AAC 50.040(d) & 18 AAC 50.350(d)(1), 1/18/97]

[Federal Citation: 40 C.F.R. 82, Subpart F, 7/1/97]

**Factual Basis:** The condition cites and requires compliance with the regulations that will apply if the Permittee uses certain refrigerants. Because these regulations include adequate monitoring and reporting requirements and because the Permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient.

**Condition 31**

**Legal Basis:** [18 AAC 50.030, 12/30/00 & 18 AAC 50.350(f)(2)-(3), 1/18/97]

**Factual basis:** Maintaining and operating equipment in good working order is fundamental to preventing unnecessary or excess emissions. Standard conditions for monitoring compliance with emission standards are based on the assumption that good maintenance is performed. Without appropriate maintenance, equipment can deteriorate much more quickly, and periodic monitoring that is not continuous would be needed much more frequently to be sure that it is representative.

Records should be kept and available to the department. Records of deferred maintenance can be a reasonable trigger for requesting source testing.

For most existing equipment, the department does not specify that the Permittee must follow manufacturer's recommendations. If the manufacturer's recommendations are not suitable for Alaskan conditions, or don't relate to minimizing emissions, the Permittee can see that they are changed as a condition of purchase for existing equipment. The requirement for complying with manufacturer's recommendations or with a specific operation and maintenance plan is included for control equipment because the efficient operation of control equipment directly relates to emissions, and the department does not anticipate that Alaskan conditions will require drastically different O & M.

It is not the department's intent in specifying manufacturer's recommendations to include those that endorse only the manufacturer's line of replacement parts. The condition states that any suitable replacement parts or equipment can be used.

**Condition 32**

**Legal Basis:** [18 AAC 50.045(a), 1/18/97]

**Factual Basis:** The requirement prohibits diluting emissions as a means of compliance. In practical terms, dilution only affects compliance when the emissions are being measured. Careful reviews of source test plans and operating conditions should reveal any dilution as a result of the introduction of non-process air into the exhaust.

**Condition 33**

**Legal Basis:** [18 AAC 50.040(e), 7/2/00]  
[18 AAC 50.045(d), 1/18/97]  
[18 AAC 50.350(d)(1), 1/18/97]  
[18 AAC 50.350(g) – (i), 1/18/97]

Applies to the Permittee because the Permittee will engage in industrial activity at the facility.

**Factual Basis:** The condition restates the regulatory prohibition on fugitive dust. This prohibition calls for reasonable precautions to be taken to prevent particulate matter from being emitted into the ambient air while engaged in industrial activities.

The Permittee must keep records describing all precautions taken to prevent particulate matter from becoming airborne due to any of the activities described in this condition. If the precautions are not listed in the State Air Quality Control Plan, then the Permittee must also record a statement describing why the Permittee believes the precaution is reasonable. This monitoring ensures that the Permittee takes the reasonable precautions and has a reason for deciding if the precaution is reasonable.

The Permittee must perform visual surveys at least once each month, and take corrective action if particulate matter is observed leaving the property. This is intended to identify whether the reasonable precautions taken are working, and to correct the problem if the precautions are not working.

**Condition 34**

**Legal Basis:** [18 AAC 50.055(g) & 18 AAC 50.310(m), 1/18/97]

Applies to the facility because the facility contains a stack or source modified after November 1, 1982.

**Factual Basis:** The condition restates the prohibition on stack injection (i.e. disposing of material by injecting it into a stack). No specific monitoring for this condition is practical. Compliance is ensured by inspections, because the source or stack would need to be modified to accommodate stack injection.

**Condition 35**

**Legal Basis:** [18 AAC 50.040(e), 7/2/00]  
[18 AAC 50.065(a) – (e), 1/18/97]  
[18 AAC 50.350(d)(1), 1/18/97]  
[18 AAC 50.350(g) – (h), 1/18/97]

These conditions apply if the Permittee conducts open burning at the facility.

**Factual Basis:** The condition requires the Permittee to comply with the regulatory requirements when conducting open burning at the facility.

Not specific monitoring is required for this condition. The permit does require the Permittee to keep "sufficient records" to demonstrate compliance with the standards for conducting open burning, but does not specify what these records should contain.

More extensive monitoring and recordkeeping is not warranted because the Permittee does not conduct open burning as a routine part of their business. Also, most of the requirements are prohibitions, which are not easily monitored. Additional monitoring is achieved through condition 36, which requires a record of complaints. Therefore, the department does not believe that additional monitoring is warranted.

### Condition 36

**Legal Basis:** [18 AAC 50.040(e), 7/2/00]  
[18 AAC 50.110, 5/26/72]  
[18 AAC 50.240(c), 1/18/97]  
[18 AAC 50.350(d)(1), 1/18/97]  
[18 AAC 50.350(g) – (i), 1/18/97]

Applies to the facility because the facility will have emissions.

**Factual Basis:** The condition restates the general prohibition on injurious air emissions, which applies to any emissions from the facility. While the other permit conditions and emissions limitation should ensure compliance with this condition, unforeseen emission impacts can violate this standard. These violations would go undetected except for complaints from affected persons. Therefore, to monitor compliance, the Permittee must monitor and respond to complaints.

The Permittee is to report any complaints and injurious emissions. The plant does not handle any large quantities of hazardous air pollutants. The Permittee must keep records of the date, time, and nature of all complaints received and summary of the investigation and corrective actions undertaken for these complaints and to submit copies of these records upon request of the department.

### Condition 37

**Legal Basis:** [18 AAC 50.235(a) & 18 AAC 50.350(f), 1/18/97]

Applies to the facility because the facility contains equipment subject to a technology-based emission standard.

**Factual Basis:** This condition restates a regulation that requires the Permittee to take reasonable steps to minimize emissions if certain activity causes exceedance of a technology-based emission standard. Because the technology-based emission standard itself is a condition of the permit, the Permittee will report the excess emissions under condition 51. Because the excess emission report requires information on the steps taken to minimize emissions, this report is adequate monitoring for compliance with this condition.

### Condition 38

**Legal Basis:** [18 AAC 50.335(a), 1/18/97]

Applies if the Permittee intends to renew the permit.

**Factual Basis:** The condition restates the regulatory deadlines, citing the specific dates applicable to the facility. Submittal of the renewal application is sufficient monitoring, recordkeeping and reporting.

### Condition 39

**Legal Basis:** [18 AAC 50.220(a) & 18 AAC 50.345(a)(10), 1/18/97]

Standard condition to be included in all permits.

**Factual Basis:** Condition requires the Permittee to conduct source tests as requested by the department, therefore no monitoring is needed. Conducting the requested source test is its own monitoring.

### Conditions 40 - 42

**Legal Basis:** [18 AAC 50.030, 12/30/00]

[18 AAC 50.035, 7/2/00]

[18 AAC 50.040(a)(b)(c)(d) & (e), 1/18/97 & 7/2/00]

[18 AAC 50.220(b) – (c), 1/18/97]

[18 AAC 50.350(g), 1/18/97]

[18 AAC 50.990(88), 1/18/97]

[Federal Citation: 40 C.F.R. 51, Appendix M, 7/1/99]

[Federal Citation: 40 C.F.R. 60, 7/1/99]

[Federal Citation: 40 C.F.R. 61, 12/19/96]

[Federal Citation: 40 C.F.R. 63, 7/1/99]

Applies when the Permittee is required to conduct a source test.

**Factual Basis:** These conditions restate regulatory requirements for source testing. As such, they supplement the specific monitoring requirements stated elsewhere in this permit. The tests reports required by later conditions adequately monitor compliance with these conditions, therefore no specific monitoring, reporting, or recordkeeping is needed.

### Conditions 43 - 45

**Legal Basis:** [18 AAC 50.345(a)(10), 1/18/97]

[18 AAC 50.350(b)(3), 1/18/97]

[18 AAC 50.350(g) – (i), 1/18/97]

Applies when the Permittee is required to conduct a source test.

**Factual Basis:** Standard condition 18 AAC 50.345(a)(10) is incorporated through these three conditions. Because this standard condition supplements specific monitoring

requirements stated elsewhere in this permit, no monitoring, reporting, or recordkeeping is required. The source test itself is adequate to monitor compliance with this condition.

**Condition 46**

**Legal Basis:** [18 AAC 50.220(f) & 18 AAC 50.350(g), 1/18/97]

Applies when the Permittee tests for compliance with the particulate matter standard.

**Factual Basis:** The condition incorporates a regulatory requirement for particulate matter source tests. The Permittee must use a certain equation to calculate the particulate-matter emission concentration from the source test results. Because this condition supplements specific monitoring requirements stated elsewhere in this permit, no monitoring, reporting, or recordkeeping is required.

**Condition 47**

**Legal Basis:** [18 AAC 50.205, 1/18/97]

[18 AAC 50.345(a)(9), 1/18/97]

[18 AAC 50.350(b)(3), 1/18/97]

[18 AAC 50.350(i), 1/18/97]

Applies because the permit requires the Permittee to submit reports, and because the condition is a standard condition.

**Factual Basis:** This condition restates the regulatory requirement that all reports must be certified. To ease the certification burden, the condition allows the excess emission reports to be certified with the semi-annual operating report, although the excess emission reports must be submitted more frequently. This condition supplements the reporting requirements of the permit and no monitoring, recordkeeping or reporting for this condition is needed.

**Condition 48**

**Legal Basis:** [18 AAC 50.350(i), 1/18/97]

Applies because the Permittee is required to send reports to the department.

**Factual Basis:** This condition merely specifies where submittals to the department should be sent. Receipt of the submittal at the correct department office is sufficient monitoring for this condition. This condition supplements the reporting requirements of the permit and no monitoring, recordkeeping or reporting for this condition is needed.



**Condition 49**

**Legal Basis:** [18 AAC 50.200, 1/18/97]  
[18 AAC 50.345(a)(8), 1/18/97]  
[18 AAC 50.350(b)(3), 1/18/97]  
[18 AAC 50.350(g) – (i), 1/18/97]

Applies to all Permittees, and incorporates a standard condition

**Factual Basis:** Incorporates a standard condition in regulation, which tells the Permittee to submit information requested by the department. Receipt of the requested information is adequate monitoring.

**Condition 50**

**Legal Basis:** [18 AAC 50.350(h), 1/18/97]

Applies to records required by a permit.

**Factual Basis:** The condition restates the regulatory requirements for recordkeeping, and supplements the recordkeeping defined for specific conditions in the permit. The records being kept provide adequate evidence of compliance with this requirement, therefore, no additional monitoring, recordkeeping or reporting is required.

**Condition 51**

**Legal Basis:** [18 AAC 50.235(a)(2), 18 AAC 50.240(c) & 18 AAC 50.350(i), 1/18/97]

Applies when the emissions or operations deviate from the requirements of the permit.

**Factual Basis:** This condition satisfies two regulatory requirements related to excess emissions—the technology-based emission standard regulation and the excess emission regulation. Although there are some differences between the regulations, the condition satisfies the requirements of each regulation.

The condition does not mandate the use of the department's reporting form, but it does specify that the information listed on the form must be included in the report.

The reports themselves and the other monitoring records required under this permit provide an adequate monitoring of whether the Permittee has complied with the condition. Therefore, no additional monitoring, recordkeeping or reporting is required.

**Condition 52**

**Legal Basis:** [18 AAC 50.040, 7/2/00 & 18 AAC 50.350(i)(2), 1/18/97]  
[Federal Citation: 40 C.F.R. 60 & 40 C.F.R. 61, 7/1/99]

Applies to facilities subject to NSPS and NESHAP federal regulations.

**Factual Basis:** The condition supplements the specific reporting requirements in 40 C.F.R. 60 and 40 C.F.R. 61. The permit does not need any monitoring,

recordkeeping or reporting. The reports themselves are adequate monitoring for compliance with this condition.

**Condition 53**

**Legal Basis:** [18 AAC 50.350(d)(4), 1/18/97]  
[18 AAC 50.350(f)(3), 1/18/97]  
[18 AAC 50.350(i), 1/18/97]  
Applies to all permits.

**Factual Basis:** The condition restates the requirements for reports listed in regulation. The condition supplements the specific reporting requirements elsewhere in the permit and does not need any monitoring, recordkeeping or reporting. The reports themselves are adequate monitoring for compliance with this condition.

**Condition 54**

**Legal Basis:** [18 AAC 50.350(j), 1/18/97]  
[18 AAC 50.350(d)(4), 1/18/97]  
Applies to all Permittees.

**Factual Basis:** This condition specifies the periodic compliance certification requirements, and specifies a due date for the annual compliance certification. Because this requirement is a report, no monitoring, recordkeeping or reporting is needed.

**Condition 55**

**Legal Basis:** [18 AAC 50.350(f)(3), 1/18/97]  
[18 AAC 50.040(a)(1), 7/2/00]  
[Federal Citation: 40 C.F.R. 60.11(g), 7/1/99]  
[Federal Citation: 40 C.F.R. 52.12(c), 7/1/99]  
Applies to all permits.

**Factual Basis:** This condition clarifies that any credible evidence can be used to verify compliance with the permit, not just the monitoring required under the permit. This condition is necessary to ensure compliance with the Clean Air Act. No monitoring, recordkeeping, or reporting is necessary for this condition. If the condition refers to a source subject to an NSPS the requirements of 40 C.F.R. 60.11(g) apply.

**Conditions 56 - 62**

**Legal Basis:** [18 AAC 50.345(a)(1) – (7) & 18 AAC 50.350(b)(3), 1/18/97]  
Applies to all operating permits.

**Factual Basis:** These are standard conditions required for all operating permits.

**Condition 63 - 64**

**Legal Basis:** [18 AAC 50.350(l), 1/18/97]

Applies because the Permittee has requested a shield for the applicable requirements listed under this condition.

**Factual Basis:** The following table explains the permit shield requests and the department's applicability determination. The permit conditions sets forth the requirements that the department determined were not applicable to the facility, based on the permit application, past operating permit, construction permits and inspection reports.

**Table 3. Permit Shield Decision**

Shield requested for:	Shielded?	Reason for shield decision
40 C.F.R. 60, Subpart GG	Yes	Based upon certification by the Permittee that Source IDs 5 - 8 were constructed prior to April 1970 and the 1994 "refurbishment" does not comprise a "reconstruction" as set out in 40 C.F.R. 60.15(b) and (c) because the fixed capital cost of the new components did not exceed 50 percent of the fixed capital cost that would be required to construct four comparable entirely new gas turbines.
40 C.F.R. 63	Yes	Based upon certification by the Permittee that none of the specified activities are performed at the facility.

**Conditions 65 - 73**

**Legal Basis:** [18 AAC 50.350(g) – (i), 1/18/97]  
 [18 AAC 50.350(d)(1)(C), 6/21/98]  
 [18 AAC 50.055(b)(1), 1/18/97]

Applies because these conditions detail the monitoring, recordkeeping, and reporting required in conditions 4 and 5.

**Factual Basis:** Each permit term and condition must include monitoring, recordkeeping and reporting for the Permittee to show verifiable compliance with each permit term and condition. The Permittee must establish by actual visual observations which can be supplemented by other means, such as a defined Facility Operation and Maintenance Program, that the facility is in continuous compliance with the State's emission standards for visible emissions and particulate matter. The correlation between particulate matter and visible emissions that is the basis for this monitoring procedure is discussed under conditions 4 and 5.

These conditions detail a stepwise process for monitoring compliance with the State's visible emissions and particulate matter standards for liquid and gas fired sources. Equipment types covered. Equipment types covered by these conditions are internal combustion engines, turbines, heaters, boilers, and flares. Initial monitoring frequency schedules are established

along with subsequent reductions or increases in frequency depending on the results of the self-monitoring program.

Monitoring frequencies for hydrocarbon fuels, both liquid and gaseous, are detailed in these conditions. The monitoring intervals for gaseous fuels are less frequent than for liquid fuels in recognition of the reduced propensity of gaseous fuels to produce particulate matter as a result of combustion. This reduced level of monitoring for individual facilities in conjunction with the very large number of gas fired sources in Alaska should provide the department with sufficient data to evaluate the compliance history of these sources as a category.

Reasonable action thresholds are established in these conditions that require the Permittee to progressively address potential visible emission problems from sources either through maintenance programs and/or more rigorous tests that will quantify whether a specific emission standard has been exceeded.

Notification of the department via recordkeeping and reporting requirements are included in these conditions.